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CALIFORNIA TO DAY

SAN FRANCISCO — ITS METROPOLIS

FOR THE

HOMESEEKER
ORCHARDIST
FARMER
MECHANIC
DAIRYMAN
STOCKRAISER
MANUFACTURER
TOURIST

The
California Promotion Committee
San Francisco

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MT. SHASTA, ONE OF THE PICTURESQUE PEAKS OF THE SIERRA NEVADA, ON THE LINE OF THE SOUTHERN PACIFIC, BETWEEN SAN FRANCISCO, CAL., AND PORTLAND, ORE.

CALIFORNIA TODAY

SAN FRANCISCO
ITS METROPOLIS

A CONCISE STATEMENT CONCERNING THE STATE THAT FACES THE ORIENT, AND THE CITY BY THE GOLDEN GATE. UNDISPUTED FACTS AND TELLING FIGURES FROM VARIOUS AUTHENTIC AND OFFICIAL SOURCES CONCERNING THE GEOGRAPHY, TOPOGRAPHY, CLIMATE, COMMERCE, OUTLOOK, RESOURCES, INDUSTRIES AND PEOPLE — PROFUSELY ILLUSTRATED.

COMPILED BY
CHARLES SEDGWICK AIKEN

1903

THE CALIFORNIA PROMOTION COMMITTEE
OF SAN FRANCISCO
PUBLISHERS

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OF SAN FRANCISCO

PRESS OF
PHILLIPS, SMYTH & VAN ORDEN
CLAY AND SANSOME STS.
SAN FRANCISCO, CAL.

Let me arise, and away
To the land that guards the dying day,
Whose burning tear, the evening-star,
Drops silently to the wave afar;
The land where summers never cease
Their sunny psalm of light and peace.
Whose moonlight, poured for years untold,
Has drifted down in dust of gold;
Those morning splendors, fallen in showers,
Leave ceaseless sunrise in the flowers.

—EDWARD ROWLAND SILL.

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THE

California Promotion Committee

OF SAN FRANCISCO

The California Promotion Committee is composed of fifteen representative business men of San Francisco and the State selected from the different commercial organizations, and has for its object the promotion of the development and the advertising of the resources of California with a view of inducing people to locate in the State.

The members of the Committee give their services gratuitously and their well-known reputation insures to all inquirers unbiased and unprejudiced information. The funds for carrying on this work are subscribed by a large number of bankers, merchants, professional men and others of the city of San Francisco.

The California Promotion Committee has representatives in all portions of the State and is kept conversant with the conditions in the several localities, thus enabling it to direct and properly locate newcomers to California according to their various inclinations, whether they come as visitors or wage-earners. The Committee maintains headquarters in the central part of the city of San Francisco convenient to the hotels and other points of interest, where all are cordially welcome and reliably informed regarding the city and State. At these headquarters may be found reading, writing and lounging rooms for the convenience of visitors.

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—OF—

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CHAPTER I.

INTRODUCTION. Purpose of the Book — Recent Events that Have Caused an Awakening in the West — The Oriental Outlook — Alaskan Development — Annexation of Hawaii — Gold Mining — Horticultural Progress — The Charm of Climate — A State for Comfort and Prosperity — Demand for Men of Energy and Thrift — Facts Little Known Heretofore Concerning Marvelous Fertility and Climate of Central and Upper Portions of California — Oranges, Olives, and Tropical Fruits in Northern Counties — A Vast Empire with Tremendous Possibilities.

The Californian loves his State because his State loves him, and he returns her love with a fierce affection that men of other regions are slow to understand.

—DAVID STARR JORDAN.

CALIFORNIA TO-DAY!

The phrase speaks of present opportunity in the great State that is bound to be greater— greater in population, in resources that result from skill and trade, in commerce compelled by the world's demands. This volume is designed to tell and to picture concisely, truthfully, and plainly, the chief facts relative to the State and its possibilities; facts such as will answer briefly the questions that might be asked by anyone thinking of making California his home.

No book of this size could do more than to satisfy interest in briefest detail; to point the way to knowledge that may be had for the asking; to refer to and to quote men whose authority in special lines is recognized the world over; to give figures of Government and State officials; to tell of things from the standpoint of the writer's experience; and last, but above all, to present by the finest reproductions of photographs, scenes of natural beauty, of industries, of houses, lands, factories, horses, cattle, door-yards, dairies, race-courses, irrigation ditches, poultry yards, business blocks, buildings in the chief cities, parks, steamships, railroads—the thousand things that mean

much to one whose face is turned toward the Farthest West—all this is here attempted and accomplished in reasonable measure.

To the stranger to all things Californian, to one who forgets that the State's area is larger than all England and Scotland combined, there may be found some lack, but enough is here compressed to excite the wonder of anyone reasonably familiar with the vastness and the variety of California's resources. To tell in any satisfying detail of products, of industries, of men behind them, and opportunities for others, would require an Encyclopedia Californica as large as the Britannica.

This State that to-day faces the Orient is scarcely a half century old, but the years have been years of active, many-sided progress. Their history is that of civilization in brief, of the subduing of wilderness, of home-making under skies as blue as Italy's and air as beatific, by men and women of brain and muscle; of the growth here, in fifty years, of a State where a million and a half of people have homes; of the impetus westward following events of the Spanish war until to-day the New World and the Old World face each other through the California gateway.

A century ago, and the century through, Europe and America have shaken fists and shaken hands by turns across the Atlantic. To-day at the opening of the Twentieth Century the path of progress is over the Pacific. Old World powers are gathering their forces in the Orient. Alaska and "the isles of the sea" belong to America. The course of empire is still westward as much to-day as when wise Bishop Berkeley penned his famous prophecy. And the pathway across the United States is through California.

To tell, then, of this big State and the gateway, where

—East is East and West is West,

is the object of this volume. It tells many old facts and many new ones. It tells, for example, that all New England and New York and Pennsylvania besides may be laid out in California's giant area of mountain and valley, but it notes, too, that California is fast taking a leading

IN THE YOSEMITE WONDERLAND. MIRROR LAKE.

place among the creative art centers in the world. That the harbor of San Francisco is one where the fleets of all nations may easily ride at anchor at one time is here noted, as well as the later significant fact that the gold product of all the fifty-seven counties of California, for the year 1902, over $17,000,000, far exceeded the total gold product of the Klondike since its discovery. It is well worth noting, too, that whereas in 1890 the total orange shipments east filled only 4,016 carloads, in 1901–1902 they were considerably over 24,000 carloads, a contrast that tells wonders of the industry and the pluck of the orange growers of the State.

Wonders of Out-of-Doors.

To the stranger, California, so vast and so varied, is bewildering. Few, even of old residents, know one-half of its attributes or its charms. Its very sun and sky and air fascinate. Frowning cliffs and towering trees all speak of the wonders of out-of-door living. The new-comer should form a fairly definite idea of what he desires in home surroundings, and then seek for his ideal. Its attainment is sure; he has only to decide. If he does not care for the prize-winning oranges of Porterville, Palermo, Redlands, or Riverside, he may prefer the matchless apples of Watsonville or of the half-way-to-top Sierra, of Nimshew or Susanville, or of the other mountain regions. If he cares naught for mountains, let him seek the valleys; if aweary of landscape let him seek the never-tiring sea.

Why not Come this Way, too.

The publishers of this volume—The California Promotion Committee—are men who believe in all California, who know its resources, are sure of its possibilities, and wish others to share their knowledge, and come to this winterless land to live and prosper in never-ending thankfulness for climatic comfort.

California Winter Conditions.

Given sunshine and spring-like weather through all the winter months, and Nature comes close to doing the rest. To the resident or the tourist in California in winter the question is not so much what to do as when. In the infinite variety of recreations, of diverse sports, of many things to do in the open air, the seeker for home or

for health or diversion is bewildered, never bored. Springtime ever suggests to the man weary of snow and stoves all sorts of cheery things. The

> —new grass pointing out the way
> For flowers to follow everywhere,

suggests tramps afield, botanizing tours or early wild flower hunts. That feeling begins in California's November, for then the new grass is sprouting, and tips of early grain will soon show through the summer-fallowed soil. An odd but welcome impression it is to travel westward to the Pacific, leaving snowflakes in Boston or Chicago, and to run down the Sierra slopes into California's winter-spring. There's a fragrance of upturning soil and the meadow lark's thrilling notes—never a suggestion of winter. The traveler has the feeling of having skipped at least five pages of the almanac!

Edenic Charm of Climate.

It is immaterial—and this is something all tourists and health seekers do not realize—whether the seeker for comfort and sport in winter enters California by the central or southern routes of travel, for the soft air of alluring days will greet him at both points. There are nooks, both north and south, where winter living is idyllic. Thousands of people to-day know of the palms and orange groves of Pasadena, where ten might tell of the attractions, for example, of St. Helena, or Woodland, or Modesto, five hundred miles away to the north. Yet there are palms and oranges and olives and pomegranates and a wealth of tropic fruit and tropic air in and around those other points. And these places—St. Helena and Pasadena and Woodland and Modesto and Riverside—merely stand as types of sunny winter resorts where the snow-weary may gather, and sport or idle the hours away.

Where Air is Tempered.

The stranger to California is to bear in mind that climatic conditions are more a matter of east and west than of north and south. Go to the Sierra in winter and one may get all the sleigh rides he wants, but nearer the sea-coast, in sunny valleys, the air is tempered, and a tropic clime is there.

Golf is the ideal winter sport for Californians. "You

Plenty to Keep Sportsmen Busy.

see, there's so much outdoors here!" a golf devotee half-apologetically explained. Not a hotel of any note but has golf links of inspiring dimensions. The links at Coronado, at Redlands, at Riverside, at Los Angeles, at Santa Barbara, at Del Monte, at San Rafael, at San Jose, at Paso Robles, and on the big Presidio reservation at San Francisco, are among the best known. But the great game has taken fast hold on people devoted to athletics and sunshine sports, and new links in out-of-the-way spots are being laid out every day. Golf, tennis, polo, wheeling, fishing, walking, riding, and all the out-of-dooring one can imagine, including gardening in manifold forms, are here for the nature lover, and the sport enthusiast to do and to dare. If he wander about the State, to any of the big first-class hotels that are fast dotting the landscape of every tourist town, he will find all the accessories of rest and recreation. "This is a sportsman's paradise!" exclaimed a well-known eastern man a few years ago, as he stood beside a Sierra lake in September and pulled out the rosy-tinted rainbow trout by the dozen. If he had waited until winter he might have made a similar exclamation, not beside that Sierra lake, perhaps, but elsewhere within this State of continuous charm.

Climate Winter and Summer.

Because California winters are ideal, the State has gained justly a reputation for cheerful comfort that draws thousands annually from regions of wind and ice and snow. Why sit beside steam pipes or hug coal stoves when you can bask in the sunshine under an orange tree? But do all seekers for comfort and health realize that California summers are idyllic? Here is opportunity for escaping from overpowering summer heat as surely as later the California trip means the dodging of icicles and snowballs. Here is the paradise of the camper and the sportsman, for no rainstorms will come to upset outing calculations. Here is the most equable of climates, joined with chances to meet Nature at first hand, in mountain canyons or big tree groves. Here are Sierra lakes so filled with trout that a cubic water ordinance ought to be enforced, and here are hundreds of mineral springs, shown by medical science to be not only equal, but superior, to the famed Nature

ON THE HEADWATERS OF THE KLAMATH RIVER, HUMBOLDT COUNTY, SHOWING THE VAST TIMBER TRACTS OF THIS REGION. AMID WHICH ARE FRUIT FARMS AND SMALL CLEARINGS, WHILE ALL ABOUT SPORTSMEN MAY FIND RECREATION.

JUST LOOK AT THAT! WHERE CAN YOU FIND A MORE IDEAL HOME SETTING? NOTE THE ORCHARD BLOOM IN THE FOREGROUND, AND THE VINEYARD ON THE DISTANT HILLSIDE, AND THE TIMBER-CLAD MOUNTAINS.

tain, astronomers may be made happy, while varied attractions may be found at Mt. Lowe, Mt. Tamalpais, Mt. Wilson, Mt. Howell, and hundreds of other sky-scraping summits.

Concerning society and education and the general outlook here, note these words of President David Starr Jordan, of Stanford University:

Society and Higher Education.

"With all this, the social life is, in its essentials, that of the rest of the United States, for the same blood flows in the veins of those whose influence dominates it. Under all its deviations and variations lies the old Puritan conscience, which is still the backbone of the civilization of the republic. Life in California is a little fresher, a little freer, a good deal richer, in its physical aspects, and for these reasons, more intensely and characteristically American. With, perhaps, ninety-five per cent of identity there is five per cent of divergence, and this five per cent I have emphasized even to exaggeration. We know our friends by their slight differences in feature or expression, not by their common humanity. Much of this divergence is already fading away. Scenery and climate remain, but there is less elbow-room, and the unearned increment is disappearing. That which is solid will endure; the rest will vanish. The forces that ally us to the East are growing stronger every year with the immigration of men with new ideas. The vigorous growth of the two universities in California insures the elevation as well as the retention of these ideas. Through their influence California will contribute a generous share to the social development of the East, and be a giver as well as a receiver. To-day the pressure of higher education is greater to the square mile, if we may use such an expression, than anywhere else in our country. In no other State is the path from the farm-house to the college so well trodden as here. It requires no prophet to forecast that educational pre-eminence is already assured. But however close the alliance with Eastern culture, to the last certain traits will persist.

Development of the Universities.

"California is the most cosmopolitan of all the States of the Union, and such she will remain. Whatever the

fates may bring, her people will be tolerant, hopeful and adequate, sure of themselves, masters of the present, fearless of the future."

The Need of California To-day.

Contrast the population of California with the population of the snug commonwealth of Massachusetts. Bear in mind the possibilities of land fertility, of growing cities, and some of the many causes that develop a growing State and see that California to-day has room for double and treble its present population, room for millions more to live and thrive in climatic comfort. California to-day needs men and women, needs them in the cities as well as in the country, in the fruit orchards, hop fields, grain fields, and mines; has need for laboring men, for men of trades, for men of small capital. Idlers are not wanted, nor men who think the world owes them a living, or believe they can pick gold from the streets in this land of gold. There is gold in the soil, and on top of the soil, but it can be had only by persistent labor. There is certain success here and a mild climate and a broad outlook, and young and old of whatever place or class, desirous of a better condition or of greater things in life, are urged to read of California and consider the advantages that residence offers. In this book all lines of industries and of social life conditions cannot be touched upon in detail. Reference to the index, to pages of statistics and to miscellaneous published volumes cannot but prove helpful to all those desiring more detailed information.

Information Free Asking.

In San Francisco the publishers of this volume—The California Promotion Committee—maintain headquarters with well-informed assistants whose duty it is to give information concerning the State to all applicants. If there are questions unanswered in this book—and inevitably there are many—write to the California Promotion Committee at the address given elsewhere and a prompt reply and as definite information as it is possible to secure is assured the correspondent. This committee has no lands to sell and no cause to advocate beyond the settlement of California.

WIDE-SPREADING LIVE-OAKS AT THE ENTRANCE TO THE UNIVERSITY OF CALIFORNIA, AT BERKELEY, ON THE SLOPING HILLSIDE FACING SAN FRANCISCO BAY.

MARKET STREET, MAIN ARTERY OF THE CITY OF SAN FRANCISCO, LOOKING FROM THIRD STREET TO THE FERRY BUILDING AND

CHAPTER II.

SAN FRANCISCO — The Wonderful City by the Golden Gate — Its Unique Characteristics — Growth Following the Discovery of Gold — Unrivalled Situation for Controlling the Commerce of the Pacific — At the Gateway of the Great Interior Valley of California — Recent Increase in Commerce, Bank Clearings, Manufactures, and Industries — A Vigorous Municipality with Stirring History — The New Charter and Reformed Government — Remarkable Building Activity — Investments of Eastern Capital and Opportunities — Manufactures and Cheap Fuel — Shipbuilding — A Rendezvous for War Vessels — The Battleship Oregon and its Builders — Equable Climate, making City a Favorite Summer as well as Winter Resort — Two Transcontinental Railroads and More Coming — Steamship Lines to Alaska, Mexico, the Orient, Australia, and Islands of the Pacific — Growth of Arts and Letters — Young Writers and Painters Gaining World Fame — Social Life and Characteristics — Cost of Living — Cheap Suburban Transportation.

Yea, here sit we by the Golden Gate,
Nor demanding much, but inviting you all,
Nor publishing loud, but daring to wait,
And great in much that the days deem small.

—JOAQUIN MILLER.

Marvelous Growth.

A HALF CENTURY AGO, San Francisco, California's metropolis, was little more than a sand-hill settlement. To-day it is a populous city of over four hundred thousand inhabitants and an outlook before it, commercial, industrial, and social, second to no other city in the world. In its land-locked harbor, to-day, fly the flags of ships of all nations. Through its Golden Gate, out across the Pacific to the Orient, north to Alaska, south to Mexico, Central and South America and to the islands of the sea, go steamships and sailing craft laden with passengers and diversified cargoes. Hawaii, Philippines, Alaska, the awakening Orient — these mean a new San Francisco. Westward, across the continent, a half-dozen new lines of railway are approaching California's metropolis. The West is wide awake; the East is looking westward; old things are passing away; new things are here; action is in the air.

The past year shows unprecedented activity in all lines, in real estate transfers, in clearing house receipts, in building contracts. Huge structures of steel and stone, —a credit to any city—have been built. More are being constructed. Capital from the older eastern cities, as well as from the centers of finance abroad, is being invested here. No longer do those lines of Bret Harte truthfully describe the city,

> Serene, indifferent to Fate,
> Thou sittest at the Western gate.

In 1902 total real estate sales in San Francisco county amounted to $41,000,000; in 1901, $29,147,969, an increase for the year of over $10,000,000. The coinage at the United States Mint (1902) aggregated $47,310,988.00. In 1901,$81,072,490. Total receipts of customs duty paid into the United States Treasury, San Francisco, during 1902, $7,735 015.42; 1901, $7,125,082.34; 1900, $7,693,342. Wheat exports from San Francisco during 1902 were 9,152,436 centals, valued at $10,213,105; 1901, 9,294,538 centals valued at $9,526,812; 1900, 7,733,-667 centals valued at 7,923,347; 1899, 3,245,434 centals valued at $3,576,329. Nine savings banks of San Francisco held on deposit December 31, 1902, $144,295,034.57; on December 31st, 1901, $133,430,482. The rapid growth of the city is shown by its total bank clearings for the past five years, which were as follows: 1898, $813,153,024; 1899, $971,015,072; 1900, $1,029,582,594; 1901, $1,178,169,-536; 1902, $1,342,927,204.

San Francisco is unique among cities, a study among the municipalities of the world. Here are many characteristics of older places, adjusted to cosmopolitan demands. On this peninsula has grown up a city eighth in size among the cities of the nation. Qualities of West and East, and North and South, are here mingled and developed. Practical and poetical sides of life here touch in equal and harmonious growth. Painter and musician, stockbroker and merchant, are shoulder to shoulder. Progress in commerce and literature has been conspicuous. Critics remark to see such lines of endeavor, of par-

ALONG THE SAN FRANCISCO WATER FRONT, WHERE ARE MOORED SHIPS FROM THE PORTS OF ALL THE WORLD.

allel growth in the same community. Here is the soft air and blue sky of Milan, the marine outlook of Naples, with Mount Tamalpais personating Vesuvius; the hills of Rome, the winter climate of the Riviera, and people who are the combination of New England energy and Oriental luxury.

Untrammeled Individuality.

The open-air life that is possible the year through, coupled with the coming hither, in the search either for riches or for health, of the world's best brain and brawn, have formed here, on the Nation's western shore, a community that stands for untrammeled individuality. The genius, free from conventions, here finds breathing room. In books and on canvas these truths have already been demonstrated.

The characteristics of the city are the characteristics of the State in a measure. Newcomers hear in California and in San Francisco much of the missions and see some of them, that chain of land-marks along the old King's Highway from Mexico to San Francisco and beyond. They mark the pathway of the padres of old Spain, who founded in the wilderness of that age, at intervals of a day's journey, buildings for worship marked by the cross of Christ. The story of it all, of old Father Junipero Serra and his associates, is attractive history. So is the story of the Argonauts following the gold discovery in January, 1848; so is the story of this unique city built here by men who came for gold; and then gold finding and gold mining, fruit growing, stock raising, and stock broking, exciting political troubles of early days, the sandlot demagogism, the anti-Chinese movement, all help to form a history worth reading about, but a history too long for the telling here, too fascinating for the reader who wishes to learn of things more vital, of California and of San Francisco to-day.

Stories of the City.

The Forward Look and Action.

These stories of history are a backward look, but there is a living present on the Pacific shores to-day, and a forward look that can have no backward glancing. Things are doing here, and busy men need now to learn only of progress, of advances in value, of chances for investment, while over all and around all is the lure that here, on this

western shore, is a climate of comfort, of chances for out-of-door exercise and out-of-door daily pleasures all the year around — no cyclones, no blizzards, no thunder-storms, nothing but soft-falling rains and sunshine.

Bryce's Opinion of the City.

In the half-century just passed, history has been making rapidly here in the far West, but it is history that means something, and history that stands: Here is a picture of the city sketched by that noted Englishman, James Bryce, in his "American Commonwealth." He says:

"Few cities in the world can vie with San Francisco either in the beauty or in the natural advantages of her situation; indeed, there are only two places in Europe—Constantinople and Gibraltar—that combine an equally perfect landscape with what may be called an equally imperial position. Before you there is the magnificent bay, with its far-stretching arms and rocky isles, and beyond it the faint line of the Sierra Nevada, cutting the clear air like mother of pearl; between mountains through which ships bear in commerce from the farthest shores of the Pacific; to the right, valleys rich with corn and wine, sweeping away to the southern horizon. The city itself is full of bold hills, rising steeply from the deep water. The air is keen, dry and bright, like the air of Greece, and the waters not less blue. Perhaps it is the air and light, recalling the cities of the Mediterranean, that makes one involuntarily look up to the top of these hills for the feudal castle or the ruins of the Acropolis, which, one thinks, must crown them."

All the world of letters and all the world of men who knew him loved "the Tusitala," Robert Louis Stevenson, romancer and wizard of the South Seas and essayist of rarest worth. Said he of San Francisco:

Robert Louis Stevenson's Words.

"But San Francisco is not herself only. She is not only the most interesting city in the Union and the hugest smelting pot of races and of precious metals; she keeps, besides, the doors of the Pacific, and is the port of entry to another world and an earlier epoch to man's history. Nowhere else will you observe (in the ancient phrase) so many tall ships as here convene from round the

Craft from the South Seas.

Horn, from China, from Sydney, and the Indies; but scarce remarked amid that crowd of deep-sea giants another class of craft, the island schooner, circulates—low in the water, with lofty spars, and dainty lines, rigged and fashioned like a yacht, manned with brown-skinned, soft-spoken, sweet-eyed, native sailors, and equipped with their great double-ender boats, that tell a tale of boisterous sea-beaches.

"I stood there on the extreme shore of the West and of to-day. Seventeen hundred years ago, and seven thousand miles to the east, the legionaries stood, perhaps, upon the walls of Antonius and looked northward toward the mountains of the Picts. For all the interval of time and space, I, when I looked from the Cliff House, on the broad Pacific, was that man's heir and analogue—each of us standing on the verge of the Roman Empire (or, as we now call it, Western Civilization), each of us gazing onward into zones unromanized."

Discovery of San Francisco Bay.

This city, that Mr. Bryce compares to Constantinople and Gibraltar, is in latitude 37° 47′ north; longitude 122° 25′ west. It is upon the west shore of San Francisco bay, a land-locked harbor that has been the pride of navigators ever since Lieutenant Juan de Ayala, in August, 1775, sailed into the harbor through the Golden Gate, and told the world of its wonders. It is twenty-six miles long and six miles wide. The accredited discoverer of the bay of San Francisco is Gaspar de Portolá, and the date November 7, 1769. With his little party he was traveling northerly, searching for the Mission of El Carmelo, near Monterey, but had lost his bearings and traveled many miles out of his way. A year later came the founding of the Mission of San Francisco—the Mission Dolores—in memory of San Francisco's patron saint, St. Francis of Assisi.

The founding of Mission Dolores, October, 1776—a campaign of peace while our revolutionary forefathers were battling on the Atlantic Coast—was the beginning of San Francisco. Then it was known as Yerba Buena, and a picture of it is well drawn in Richard Henry Dana's

AN ARMY TRANSPORT IN SAN FRANCISCO HARBOR.

"Two Years Before the Mast." It was just a little village of hide and tallow traders, until the discovery of gold roused the world to send this way the best of men from all nations. Here, for three-quarters of a century, the sacrificing priests toiled and taught their Indian pupils. Here, later, came troops from Spain by way of Mexico. Then came the building of a fort, and the laying out of the Presidio, and after that, ships from many quarters of the world for horns, hides and tallow and water supply.

January 19, 1848, is the date of the gold discovery, when James W. Marshall, an employee of General John A. Sutter, found, in the millrace of Coloma, El Dorado county, bits of sparkling metal that he knew were gold. Like the shots at Lexington and Concord, Marshall's cry of "Gold!" was heard round the world. Hither in two years, from over sea and over land, came more than one hundred thousand adventurous men. San Francisco was the rendezvous, and thence up the river, thence over the hills by mule-back and horse-back, they went to the mines of the Sierra Nevada. Stern tales are told of these days, and the seeker for the picturesque may find many stories and many narratives of adventure and romance, pathetic and tragic, all relating to these days of treasure seeking. Mining in the Sierra and in the streams flowing from it, developed trade and brought about a certain amount of stock-raising and agriculture. Then the adventurous men fell back upon the towns and cities, back to Marysville and Sacramento, to San Jose and San Francisco. This city, by reason of its location upon the bay, of its vast fish food supply, of its small social center, soon became the headquarters and chief city of Alta California, a position which it has ever maintained, until to-day it holds its rank as the chief city of the United States west of Chicago.

Marshall's Cry Heard Round the World.

This early rapid growth of the city, as well as the growth of California due to the gold discovery, meant the coming here of men of strength of mind, as well as of body. Their impress has been left upon the city and upon the State. Between April and December, 1849,—to indi-

ilgrimage of the rgonauts.

WHERE TALL SHIPS BRING THEIR PRODUCE FROM EVERY CLIME—A SAN FRANCISCO DOCK SCENE.

cate, as a curious fact, the rush westward—549 vessels brought into San Francisco harbor over thirty thousand passengers, and during the same months nearly fifty thousand came overland. During 1849, the gold dust receipts at San Francisco were over $1,500,000 and the year following this increased to $3,000,000. In 1852 official shipments of gold dust aggregated $46,599,044, all of which meant wealth and growth for San Francisco. But enough of history. Let us consider things to-day.

Fortifications of the Golden Gate.

The harbor of San Francisco is land-locked, the bay and its connections extending north and south for about forty miles affording deep water anchorage for the merchant fleets of the world. It is entered through the Golden Gate, a strait five miles long, and one mile in width at its narrowest portion. These straits within the ten years, 1890 to 1900, have been fortified with the most approved modern ordnance, and the fortifications are recognized by military experts as among the best defences of any city of the Nation. Within the bay, several islands are controlled by the Government, and fortified, while at the Government Navy Yard at Mare Island, north of the city, and at the Union Iron Works, on the peninsula, are docks capable of receiving the largest modern war ships.

Suburbs of San Francisco.

Suburban communities have grown up about the city, chief among which are Oakland, Alameda, Berkeley, San Rafael, Belvedere, Sausalito, San Mateo, Menlo Park, and Palo Alto. Electric and steam railways and ferries bring these places in close communication with the city at the lowest suburban railroad rates in the world. There are in the city over 140 miles of electric railways, seventy-seven miles of cable roads, twelve miles of steam dummy system, and ten miles of horse railway. The steep hills caused the invention here of the cable railway, now used in many cities of the world. Market street is the artery from which diverge all principal streets. It is paved with bituminous rock, material used largely on all the streets. The city has a hundred and ninety-five miles of paved streets, and three hundred and five miles of sewers. In the early days the number of wooden dwellings was consider-

Crocker Building. Palace Hotel Chronicle Hearst Claus Spreckels Building. Temple Emanu-El. Spring Valley Company's Building.

WHERE THE TROOPS EMBARK FOR THE PHILIPPINES—TRANSPORT DOCKS AT THE FOOT OF FOLSOM STREET, SAN FRANCISCO.

lenges admiration. And perhaps it is, for certainly world history shows that the people of the open air, those who have close contact with Nature through nearly all the year, who revel in sunshine and high mountains and impressive forests primeval, lead the people of more artificial surroundings in craft creative, in hand and brain development, in painting, in sculpture, in literature, as well as in all athletic sports and feats of daring.

Padres, Conservators of the Arts.

Besides this natural endowment that encourages originality and development, the character of the pioneers of the State is a partial explanation of the condition of affairs as we find them to-day. And before the argonauts of '49, were the self-denying, spiritual-minded Mission fathers, conservators of the arts and teachers of men. Rare paintings brought by them from the Old World may be seen to-day well preserved within the quaint buildings that dot the California coast from Loreto to Sonoma.

About San Francisco are centered the chief educational institutions of the Pacific Coast, notably the rich and fast-growing University of California, the new Leland Stanford, Junior, University, with its munificent endowment; the Santa Clara College, oldest of all California seats of learning; the University of the Pacific, a Methodist institution of high class; St. Ignatius College famed for the scientific attainments of its instructors; and Mills College for women, classed as the Wellesley of the Pacific.

"Westward the Course of Empire."

Of all these colleges the University of California, situated across the bay from San Francisco, at Berkeley, named for Bishop George Berkeley, of Cloyne, whose "Westward the course of empire takes its way" is familiar to all schoolboys, is the chief, and is the keystone of California's well-organized educational system. This university, whose charter was granted March 23, 1868, graduated in 1902 490 students in its academic and professional colleges. Its faculties comprise more than three hundred men, with President Benjamin Ide Wheeler as the executive head. The university colleges of medicine, pharmacy, dentistry and the law are located in San Francisco, most of them in buildings on property given the

PACIFIC MAIL'S GIANT LINER KOREA. THE SIBERIA IS A SISTER SHIP. THEY HAVE A GROSS TONNAGE OF 12,000 TONS EACH, AND A DISPLACEMENT OF 18,000 TONS.

THE UNITED STATES BRANCH MINT—ONE OF THE LARGEST COINAGE PLANTS IN THE WORLD.

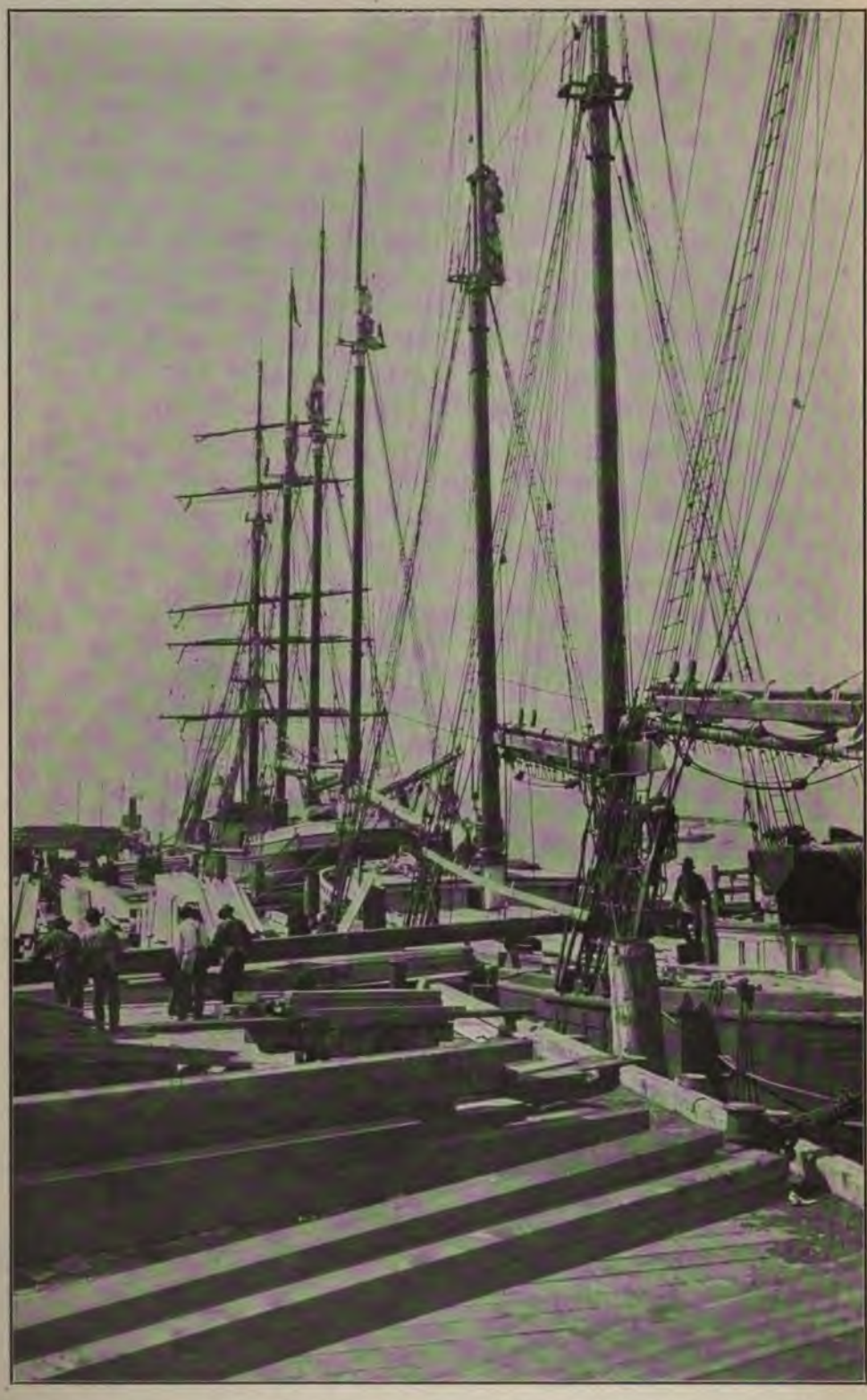
State by the late Adolph Sutro, of the Sutro tunnel fame. Another affiliated college of the University of California is the Mark Hopkins Institute of Art, situated on Nob Hill, San Francisco, in the palatial home built by the late Mark Hopkins, one of the original builders of the first overland railroad. To the location here of this high-class school of painting and sculpture the city owes largely its high rank for creative excellence. Each year this institute sends to Paris and to Rome and to the older art centers, scores of earnest students, whose good work has given San Francisco enviable fame in foreign ateliers.

The University of California (at Berkeley) is by the terms of its charter an integral part of the educational system of the State. The University's endowment is capitalized at about eleven million dollars; its yearly income is about five hundred thousand dollars; it has received private benefactions to the amount of about four million dollars. The University is indebted to Mrs. Phœbe A. Hearst for permanent building plans, upon a scale appropriate and comprehensive. At Berkeley there are one hundred and seventy officers of instruction distributed among thirty-one departments; twenty-five hundred students; a library of one hundred and five thousand volumes; an art gallery; museums and laboratories; also the agricultural experiment grounds and station which are invaluable adjuncts of the farming, orchard, and vineyard interests of the State. In San Francisco, there are one hundred and thirty officers of instruction, besides demonstrators and other assistants, and five hundred and seventy students. Tuition in the academic departments of the University, during regular sessions, is free to residents of California; non-residents pay a fee of $10 each half-year. Instruction in all the colleges is open to all qualified persons, without distinction of sex.

The University of California.

The founding a few years ago of Stanford University at Palo Alto, thirty miles below San Francisco, gave to the older University of California the stimulus of rivalry, notably in athletic sports, and each year the big

Rivalry of the Universities.



LUMBER DOCKS AT THE WESTERN SECTION OF THE SEAWALL, SAN FRANCISCO.

football contest between the men wearing the cardinal of Stanford and the blue and gold colors of Berkeley wakes the city to as much excitement as do the gridiron battles of Harvard, Yale, Princeton, and Pennsylvania, in the Eastern cities. The university at Palo Alto is a memorial to the son of the late Leland Stanford and of Mrs. Jane Lathrop Stanford. The bulk of the colossal Stanford fortune, made chiefly in overland railroad building and operating, has been given to this institution, of which Dr. David Starr Jordan is the president.

The Richest of Universities—Stanford.

The endowment of Stanford University is greater than that of any other two institutions of learning in America—amounting to over $30,000,000. It consists mainly of interest-bearing securities, and a landed endowment of over 100,000 acres. The Vina estate in Tehama county and the Gridley estate in Butte county are the largest tracts. In the erection of the university buildings it has never been necessary to touch the principal of this vast endowment. The interest has met all requirements. The location of the university is ideal. Over thirty thousand acres are included in the university estate.

Preparatory and Technical Schools

Among well-known private preparatory schools are St. Matthew's Hall (Episcopal) at San Mateo; Mt. Tamalpais Military Academy at San Rafael, conducted by the Rev. Arthur Crosby, kinsman of the famous Dr. Howard Crosby, of New York; Peralta Hall and Boone's Academy of Berkeley; Trinity School of San Francisco, the Thacher school at Nordhoff and Price's school at Alta, Placer county. The technical schools include the Lick, the Cogswell, and the Wilmerding, where manual training methods are well established. The city's public schools are noted for their efficient training. Here also is located one of several State Normal schools.

With libraries the city is well supplied, and only lately has been the recipient of Andrew Carnegie's bounty for the erection of a library building. The free library contains over 126,000 volumes; that of the Mechanics' Institute 100,000; Mercantile, 75,000. Here also is the famed Sutro library of over 200,000 rare reference volumes.

ss of king ures.

An example of business-like art, due to the possibilities of San Francisco and California, is the painters' colony at Monterey, where for several months each year are produced pictures to sell to Eastern or English connoisseurs. One man, last year, netted $4,200, as the result of his art and industry, painting systematically, and sending his work to New York dealers. San Francisco artists, who have won more than local fame, include Tom Hill, William Keith, Fred Yates, Theo. Wores, Charles Rollo Peters, A. F. Mathews, Francis McComas, R. Martinez, Miss Kuhne Beveridge, Ernest C. Peixotto, H. J. Breuer, L. P. Latimer, Jules Pages, Jules Tavernier, A. Joullin and Charles Dickman. In literature, the roll of those who have gone out into the world of letters from this community is a long one. Joaquin Miller, Bret Harte, Noah Brooks, Gertrude Atherton, Frank Norris, Ambrose Bierce, E. W. Townsend, Gelett Burgess, Booth Tarkington, Bailey Millard, W. C. Morrow, Louis Robertson, Edward Rowland Sill, Flora Haines Loughead, Charles Keeler, Juliet Wilbor Tompkins, S. E. Moffett, Edwin Markham, Grace Ellery Channing, Jack London, Chester Fernald, H. J. W. Dam, Clay Greene, George H. Broadhurst—these are a few examples.

ures and ree.

For the year ending 30th June, 1901, the chief manufactures of San Francisco with the value of the product, were as follows:—Bookbinderies $800,000, breweries $4,000,000, coffee and chocolate $2,200,000, confectionery $700,000, cigars $2,000,000, crackers $1,750,000, chemicals $1,500,000, clothing $1,500,000, electrical $3,750,000 flour $3,000,000, fruit-canning $3,700,000, gas $4,500,000, glass $1,300,000, millinery $810,000, provisions $3,500,000, shirts $1,700,000, ships $3,000,000, shoes $2,300,000, sugar $14,211,516, tanneries $1,310,000, tinware $1,750,000, wire $1,500,000, wool-scouring $2,000,000.

The city's official police department numbers (January 23, 1903) 673 men. The Fire Department, under Chief Denis Sullivan, numbers 584 men and no fire fighting department of any city ranks higher than does this one.

WAITING FOR THE LANDING OF THE TRANS-PACIFIC CABLE, DECEMBER 14, 1902—A MIDWINTER DAY IN SAN FRANCISCO.

WHEN THE TRANS-PACIFIC CABLE CAME ASHORE ON THE SAN FRANCISCO BEACH, DECEMBER 14, 1902.

Transcontinental Railways.

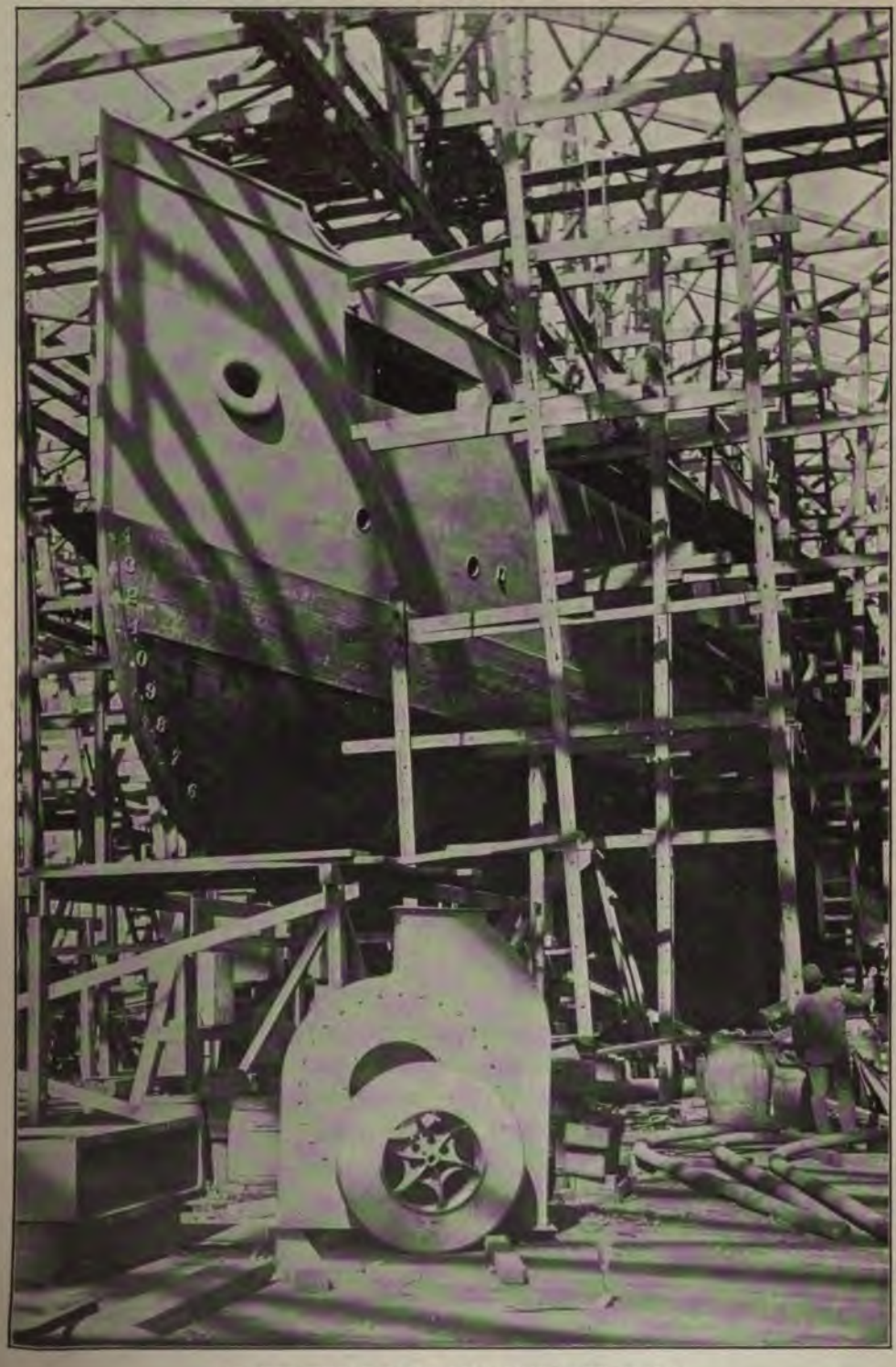
The city is connected with the eastern States by three through overland railways, the Central Pacific, the Southern Pacific (which controls the Central Pacific) and the Atchison, Topeka and Santa Fe routes. Besides these, the city has traffic connections with the Canadian Pacific, Northern Pacific, and Great Northern and other transcontinental roads. Lines of the Southern Pacific and Santa Fe and their branches connect the whole State with the city, besides the smaller lines of the California Northwestern, North Shore, Sierra Railway, and other roads that penetrate the agricultural, mining and lumbering districts.

The Pacific Coast Steamship Company has a large fleet of steamers plying between San Francisco and Californian, Mexican, Puget Sound and Alaskan ports, while the trans-Pacific liners of the Pacific Mail, Occidental and Oriental, Toyo Kisen Kaisha, Kosmos, Oceanic, and other companies link San Francisco to Central America, to the Orient, Australia, and the islands of the Pacific. There is considerable river and bay transportation, uniting the city with Sacramento, Stockton, and other points on the Sacramento and San Joaquin rivers.

The assessed valuation of real and personal property in 1902 was $420,355,541. Property is assessed at 60 to 80 per cent of its values. The city's tax rate is $1.2262 on the hundred dollars. The city's net debt (funded and floating, less sinking fund) is (June 30, 1902) only $17,185.77.

A Model City Government.

After many years of notorious "boss" rule the city in 1896 elected a reform mayor. This was the most important movement for good government in the history of the city since the Vigilance Committee of 1856. It was followed by the adoption (1899) of a new charter, formed by a board of Freeholders, and based upon the most approved models of modern municipal government. The city's control is centralized, giving more power to the mayor, who has the appointment and removal of the following commissions: fire, police, school, election, park, civil service, health, and public works. The principle of the "initiative and referendum" was incorporated in the charter, by which a percentage of the voters can compel



WHERE UNCLE SAM'S WAR SHIPS ARE BUILT.

the submission of measures for public approval. There are twelve departments of the Superior Court, five Justices Courts, and four Police Courts. The Board of Supervisors has eighteen members. The Board of Education has four members. The Board of Public Works controls the streets, sewers and public improvements of the city, and is composed of engineers of recognized standing. The water supply is excellent, being furnished by a private corporation, the Spring Valley Water Company.

Cheap Fuel for Manufactures.

The development of crude petroleum has brought to San Francisco cheap fuel and power for the development of manufactures, thus giving all lines of manufactures a tremendous stimulus until to-day, throughout the city and suburbs, as well as throughout the State, are growing up many prosperous manufacturing industries. In 1901, California produced 7,710,315 barrels of crude petroleum, and in 1902 13,693,514 barrels, producing it at a price equivalent to coal, at three and four dollars a ton, and those who know say that this supply can readily be doubled.

Expert electricians tell of the tremendous power possible through the transmission of electric energy caught from the rivers and water-falls of the Coast Range and of the Sierra Nevada. Already power of this class is being utilized in cities about San Francisco, and other projects are under way.

A Good Street Railway System.

The street railway system of the city is the cause of continued pride to residents, and constant favorable comment from visitors. Up and down the steep hills of the city electric and cable cars are kept moving. The United Railroads street car system of San Francisco represents the investment of eastern capital. It was built by Californians, but during the summer of 1902 was transferred to an eastern syndicate, the check of $17,599,675.15 being the largest check ever passed through the San Francisco clearing house. Under wise management a system of long rides for one five-cent fare is effectually carried out, bringing not only that vast pleasure ground, Golden Gate Park, to the doors of all residents, but enabling those

AT THE CENTER OF THE CITY'S LIFE—THE INTERSECTION OF THIRD, KEARNY AND MARKET STREETS, SAN FRANCISCO.

whose homes are on crowded down-town streets to quickly reach the ocean shore or to enjoy the view and invigorating breezes from the bluffs of Presidio Reservation.

A Magnificent Park.

Golden Gate Park—here is a pleasure reserve worth a whole chapter of description. It comprises 1013 acres and is valued at over fifteen millions of dollars. It is a wonderful pleasure ground of flowers and trees, lawns and various opportunities for recreation of all sorts. Once, naught but sandhills were here, and the marvelous beauty of the park is a demonstration of the possibilities of water and sand when directed by artistic controlling minds.

For more detailed description of San Francisco and its picturesque surroundings, reference is made to a book published by the California Promotion Committee entitled "San Francisco and Thereabout" by Charles Keeler.

GRAIN SHEDS ON THE SEAWALL AT SAN FRANCISCO.

CHAPTER III.

THE SACRAMENTO VALLEY. An Inland Empire—One of the Great Fertile Valleys of the World, with Room for Millions—Placer Gold Soil that Produces Oranges—Abundance of Water for Irrigation and an Ample Rainfall—Vast Tracts of Alluvial Soil—The Luxury of Climate—Olives, Oranges, Wheat, and Stock Raising—Chances for Men of Thrift with Little Money—Entire Families of Fruit Pickers—Counties Embraced in the Valley and its Water-shed—The Capital of the State, a Beautiful City—Sagacity of General Bidwell, Pioneer of Early Days—Fig Trees and Orange Trees Planted by the Argonauts of '49—Sutter's Fort and What it Stands For—Vast Tracts being Subdivided—Opportunities for Small Families—Water-ways and Railroads Carrying Products to Market—Renewed Gold Mining Activity—Mineral Springs—Schools, Churches, and Cultured Communities—Electrical Power in the Streams that Flow from the Sierra.

If you will delve beneath the sod,
Rich gifts you'll find, stored up by God,
In mountain cellars, hid from view,
When Time was young and earth was new.
And flowing fortunes in our soil
Are fountains, geysers, wells of oil.
Our myriad miles of golden grain
Ripple and wave like ocean's main.
And joyous here the bird that flies
'Neath ever-blue Italian skies.

—CARRIE B. RICE.

PROBABLY the most wonderful monument in the world is the big orange tree at Bidwell's Bar in Butte County. It is sacred to the memory of a New England miner unknown and long since passed from earth. In the spring of 1857 he dropped there the seed from which grew this thrifty orange tree. The tree told a story and a sermon—and it is not through telling and preaching yet. In its thrifty growth, its shining leaves, its cleanly well-developed fruit, it told and it tells of the possibilities of orange culture here on the slopes of the Sierra Nevada within 400 miles of the northern boundary of the States and a little over 100 miles north from San Francisco. Men were a long time learning that

Sunshine, n Air and rtile Soil.

this tree meant a semi-tropic climate, fig trees, and olive trees and waving palms. More orange trees have been growing since that tree at Bidwell's Bar was planted, but only in the past few years have people generally learned that the gold-bearing soil of the Sierra Nevada slopes, and the eastern slope of the Coast Range, of the rich fertile valleys of the Sacramento and the San Joaquin were capable of producing as many carloads of semi-tropic fruits as the transportation companies can haul to market.

But the culture of oranges, fascinating as it is and meaning as it does the combination of winter sunshine, warm air and fertile soil, is only one feature of the long-latent possibilities of the great interior valley of California. It is with the upper section of this great region—the Sacramento Valley—that this chapter has to deal.

The Great cramento Valley.

This valley of the Sacramento of California is an empire with many principalities. Such a region in the Old World or in the New England and Middle States would have been long before this as populous as the valleys of the Loire, or the Housatonic, or Susquehanna The area of the valley proper is estimated at something over 6,000 square miles with bordering foothill and and mountain region of nearly as much more. The counties directly tributary to this great northern valley, some of them mountainous, some of them foothills, all of them valley and mountain, except Sutter, which is entirely in the valley, are, starting from the north; Siskiyou, Shasta, Tehama, Glenn, Butte, Colusa, Sutter, Yuba, Yolo, Sacramento, El Dorado, Placer, Nevada and Solano. The total exact area of these counties according to Surveyor-General's reports is 17,908,960 acres and is nearly equal to that of the State of Maine.

Figures and comparisons like these indicate the size of this attractive region, but more than figures that tell where there is room enough to grow are desired by the serious man who is looking for a home, and he may be assured at the outset that this vast valley country of the West possesses countless alluring advantages that should woo him westward to seek and find.

THE ORANGE GROWS LUXURIANTLY IN NORTHERN CALIFORNIA. OROVILLE CITRUS ASSOCIATION'S GROVE—TABLE MOUNTAIN IN THE BACKGROUND.

In the Pathway of the Nations.

In the first place it's California, and California means progress, development, the movement westward being in the world's view, in the pathway of the nations. Here is growth, here farms are becoming villages, villages becoming towns, towns becoming cities. Here is a healthful clime and a fertile well-watered soil. Through the center of the valley flows the Sacramento river, its headwaters near the base of Mt. Shasta, a snow-capped peak of Siskiyou county 14,440 feet high. The river flows southerly joining the San Joaquin, which flows through the great interior valley northerly, emptying into the Pacific at the Golden Gate. A number of tributaries running through smaller valleys, flowing from the Sierra Nevada offer fertility as well as opportunities for power development. Among these are the McCloud, the Pitt, Yuba, Feather and the American, besides countless creeks. An inexhaustible supply of water pours through these river channels, diverted at many points all along the way for irrigation, and at several points, notably at Folsom and Colgate, being harnessed for the development of electrical power.

The rainfall in this region is abundant, as will be seen by reference to meteorological tables of the United States Weather Bureau elsewhere in this volume.

Rainy Season like Springtime.

And right here, speaking of rainfall, it is well to combat the idea of the New England men that rainy season means a perpetual drizzle from the first of November to the first of May. The rainy season of California is comparable to the springtime of New England. There are storms and a steady downpour of welcome rain, lasting sometimes three or four days, but the usual storm of California's winter rarely lasts longer than twenty-four hours; usually ten or twelve hours and often occurs at night. After a steady downpour the sun rises bright and warm, the air is pure and clear, wild flowers start into being before Christmas, new grass clothes the hillsides and the man in the country who looks abroad on mornings like these feels glad that he is alive and glad that he is here, far from snow-storms and blizzards, alert and vigorous under

the smiling sun. In the great interior basin of California the rainfall is heaviest on the west slope of the Sierras and increases steadily from south to north. The average rainfall of the Sacramento valley is about seventeen inches. Along the edge of the Sierra foothills it is about twenty-five inches, running to nearly thirty inches on the north, as will be seen by reference to tables given elsewhere. In the mountains at an altitude of two thousand feet and upward the rainfall amounts to from 50 to 60 inches annually. These figures are significant; they mean that the rainfall of the Sacramento watershed is sufficient to irrigate every acre of arable land in foothill and valley. They mean that the great level valley of the Sacramento, now sparsely settled and devoted to immense wheat farms, and the foothill lands, still covered with native growth, are destined to become the home of a vast population.

No Winter, Properly So-called.

It may be that facts about climate seem a trifle overworked. The tables of temperature given elsewhere tell their own story. In this Sacramento valley as well as in most of California except in the mountain counties, there is no winter that can be properly so called in the understanding of people who live where the year has four seasons. Plowing in November, training roses on the side of the house on Thanksgiving Day; hyacinths, narcissus, heliotrope, and other plants of rare perfume, blossoming in open air; humming birds flitting in the honey-suckle, picking oranges November 1st, harvesting olives in January, almond trees showing their pink blossoms of rare beauty in February—these are some calendar wonders. And again, let it not be forgotten that California temperature is not a matter of latitude as elsewhere, but rather of elevation. Going north does not mean going to a colder climate—the mean annual temperatures of Redding, Shasta County, and Redlands, San Bernardino County, are nearly the same, yet Redding is nearly 800 miles north of Redlands, and this annual mean averages between sixty-two and sixty-six degrees; highest temperature in both, 107°, lowest temperature known in both, 25°.

General N. P. Chipman, Supreme Court Commissioner of California, long a resident of the Sacramento Valley and a practical horticulturist and profound student, and acknowledged authority, says in a recent paper on the resources of California:

Remarkable Open-Air Gardens.

"In California our climate makes it possible to profitably use every day in the year. We have no month when vegetation in some form is not growing. Our wonderful diversity of products gives constant employment in the field, garden and orchard, and in all lines of manufactures, the weather is always propitious. You may not believe it, but I can take you to a property one hundred miles north of Sacramento, where you will find growing in the open, in one large orchard of 3000 acres,—apples, pears, cherries, prunes, plums, figs, oranges, lemons, almonds, raisins, apricots, olives, guavas, loquats, persimmons,—in short, every fruit to be found growing in Russia, France, Egypt, Greece, Spain, and in the entire Mediterranean basin. I doubt if a like expression of climatic possibilities can be found elsewhere on the globe.

"One other fact, and we may leave the matter of climate. California is a universal sanitarium. In the mountains and in the valleys everywhere, barring of course here and there local influences to the contrary, the climatic conditions promote improved health to all who come. Special conditions, more favorable, appear in different places, but generally all latitudes and all regions invigorate and build up the physical functions. Our great valleys lie parallel to our mountain ranges and the ocean, and residents find quick and easy change from one to the other; the people of the interior go to the coast or the mountains for a change, and the coast people go to the interior and mountains. A few hours bring this most delightful change."

The Climate for Health.

But the fair conditions of the valley winter season do not mean excessive heat in mid-summer. True, the mercury does mount steadily upward, not infrequently leaving the one hundred mark behind, but the absence of humidity makes 105° in the heart of the Sacramento valley not so

A SEMI-TROPIC SCENE AT OROVILLE.

oppressive by any means as 80° at Chicago. Sunstroke is unknown and out-door workers never miss a day's labor because of excessive sunshine.

arly Settlers the Valleys.

Since valleys are the natural homes of men, the pioneers of California—those hardy men who moved westward until stopped by the Pacific in those early days of history making, when Spanish governors ruled Alta California—established their haciendas amid the wide-spreading oaks that dot these valley plains. After them came the Argonauts, those American prototypes of Ulysses, lured over the plains and over the mountains by the cry of gold. In the valley became established stores and trading points for the mines of the Sierra and later cultivation of the fields, and the planting of fruit trees resulted. Of early conditions General Will S. Green of Colusa, writes:

'irst Country the World.

"Half a lifetime of familiarity with this region has only deepened the conviction, early formed, that it is the first country in the world. The earliest pioneers nearly all located around San Francisco bay or in the Sacramento valley. They had their choice of all California and they naturally took the best. Sutter's Fort, central to one of the earliest and largest grants of land made in this territory by Mexico, stands to-day within the corporate limits of the city of Sacramento, the capital of the State, and the richness of the surrounding country attests the wisdom of the locator.

"The city of Chico, ninety miles further north, is on land originally granted by Mexico to Gen. John Bidwell, and all who visit that locality are impressed by the richness and park-like beauty of the country.

"Those earliest of the civilized settlers saw at a glance where the soil was richest, where timber was most plentiful and where water was most abundant, and there they planted their homes. They knew by observations in the countries they came from that where game did most abound, there Nature was most provident in her gifts, and the Sacramento valley was the game region par excellence in the early days of California.

Great Herds of Grazing Animals.

"Bands of antelope numbered by the thousands, elk in great number could be seen at any time grazing on the rich forage of the valley. In 1851, a wood-chopper furnished the hotel-keeper in Colusa with an antelope each day for his board.

"When Governor Stanford, with ample means to secure his choice of land anywhere in the State, contemplated his stupendous vineyard enterprise, he sought a location in the Sacramento valley, and at Vina, one hundred and ten miles north of Sacramento, he planted, and is growing there to-day, the largest vineyard in the world.

"The great Glenn ranch, as rich a body of land as the sun shines on, and on which it was the proprietor's ambition to raise in one season a million bushels of wheat, lies well north in this valley. The princely possessions of the late Senator Boggs, and others of the most noted agricultural holdings in the State, are within the confines of the Sacramento valley."

Other Occupations, not Rural.

But attractive and profitable as are the varied rural industries of this section, orange growing, olive oil making, and ripe olive pickling, grain producing, (for the valley is one of the vast granaries of the world with vast shipments through the Golden Gate to feed the Eastern States and Europe), there are other opportunities, notably in manufacturing and in mining, as well as the minor occupations that go to make up the life of towns and cities. The Sacramento river is navigable the greater part of its length. The railroad lines of the Southern Pacific Company run the full length of the valley, extending on to Oregon, and south through to San Francisco and though the San Joaquin valley, with many branches on all sides. Thus, the valley possesses transportation outlets by both water and rail.

The principal city of the valley is Sacramento, the capital of California, a modern city and well-built and fast-growing, with broad streets, electric cars, business blocks of granite and brick and many modern structures built, or in process of construction. The State capitol is one of the

A SACRAMENTO VALLEY ALMOND ORCHARD.

most imposing buildings in the West, with one of the finest capitol park in the country, and around the city gather the life incidental to the capital of a great State. The principal other cities are Marysville, Oroville, Chico, Red Bluff, Redding, Willows, Colusa, Woodland, Vacaville, Winters, Auburn, Grass Valley and Nevada City, all well ordered places of thrift and progress. Throughout the valley everywhere are schools and churches and all that goes to make civilization and refinement. An old resident recently said:

Flourishing Valley Cities.

"The Sacramento valley is a land in which are found the opportunities of the frontier together with the advantages of civilization and is essentially the place for the making of a home; no cold winters and no thunder storms; mountains close by and sea not far away; chances for outings in the pine forests or in the ocean surf, while canyons and woodland stretches and fast flowing streams make sportsmen happy."

Mineral Output of Valley Counties.

The mountains, both of the Sierra Nevada and of the Coast Range, are rich in minerals, and although mining is the second oldest industry in the State (cattle raising being considered the first), the mineral lands of the State according to the best authorities have only as yet, figuratively speaking, received surface scratching. The last statement of the mineral output of the State credits the counties of the Sacramento valley with a product valuation of $16,031,601 out of $31,394,879 for the entire State. Elsewhere tables of the State Mining Bureau and of the highest expert authorities show the mineral product valuation of various counties of the valley. All through Placer and Nevada, El Dorado, Yuba, Butte, Shasta and Tehama, are gold mines that are being worked profitably, employing most modern mechanism. Gold mining is a leading industry in every county lying wholly or in part in the Sierras. While the easy surface diggings have for the most part been exhausted, new processes and cheaper power have given new impetus to the industry which promises to extend steadily and continuously.

Power irces of ountain treams.

Within the past four years, dredger mining has been introduced and gold dredges are working in many places. In the dredger field at Oroville, where the first successful machine was launched, twenty dredges, representing an outlay of more than $1,000,000 in machinery alone, are delving deep into the earth and reaping a golden harvest.

The power resources of the mountain streams is another factor in progess. Bordering this valley are power plants that are attracting attention of the mechanics and electrical engineers of the world. Electrical transmission has been developed here to its greatest efficiency. The power of mountain streams is already driving the machinery of farms, mines, orchards and of factories located on the bay of San Francisco, one hundred and fifty miles away. What is now being done is but the beginning of the area of power transmission. The electric current brings to the door of the factory the power of the waterfall of the mountain canyon and delivers it at a cost which renders fuel plants out of the question. At present the supply of developed power is wholly inadequate to supply the demand, but new plants are building and will continue to be built. The waterfalls are among the most valuable assets of this section and give promise of a prosperity in all lines of activity where the question of cost of power is a factor.

Long istance ission lants.

The Bay Counties Power Company, which transmits power to Sacramento and Oakland, has a plant at Colgate, capacity 25,000 horse power. Another is on Butte Creek, near Chico, with a capacity of 12,000 horse power, and near the same point a new plant is under way where 20,000 horse power will be generated. The same company controls the Fall River falls, twenty-five miles east of Oroville, which has a capacity of about 5,000 horse power. On French Creek, fifteen miles from Oroville, they have made surveys and begun preliminary work on a plant, the estimated capacity of which is 25,000 horse power. Another lately formed has secured rights on the upper North Fork of Feather River and proposes to build a plant of 300,000 horse power. The same company, it is reported,

THE OLIVE FLOURISHES IN BUTTE COUNTY—THIS IS THE WAY IT GROWS AT THERMALITO.

recently secured control of the Big Bend tunnel, fifteen miles above Oroville on the North Fork, where 25,000 horse power may be developed at comparatively small cost.

Mare Island Navy Yard.

In Solano county is Vallejo, the navy yard town. Near it is Mare Island, a large reservation owned by the government located in the northern end of San Pablo Bay, a tributary of San Francisco Bay. On this island are located the shops, docks, barracks, and officers' residences of the naval rendezvous of the Pacific fleet. Here war ships are constructed and repaired and the location here of these shops gives employment to many thousand men.

Timber Lands and Lumbering Industries.

Upon the slopes of the Sierra are vast tracts of pine timber of many varieties and large fortunes are invested in the lumbering industry. Among the recent interesting developments of the present is the acquisition of vast tracts of timber land in the mountains by corporations which propose soon to begin the manufacture of wood products on a larger scale than heretofore known in this region. For example, the Diamond Match Company, one of the largest corporations dealing in lumber and its products, has recently purchased 60,000 acres of timber land in Butte, Plumas and Tehama counties. Its agents have been making surveys for railroad, and it is common belief that soon they will begin work on a gigantic scale. The signs of the times point to unprecedented growth in the industries growing out of timber resources.

The Out-of-door Life that Appeals.

Despite all other attractions of California, mining, lumbering, and the things that attract in city life for the average man, the possibility of profit and health in an out-of-door life, in fruit growing of some sort, is the thing that must appeal. For life in the sunshine means health, and without health the human being is a nuisance. It is a difficult task to picture in words the vast orchards now growing throughout the valley and yielding annual delectation for the markets of California, the Orient, and the Eastern States; orchards of prunes, apricots, apples, pears, figs, almonds, peaches and olives; groves of oranges, lemons and grape-fruit; countless acres of small fruits of

rare excellence and more acres equally countless of vegetables of all sorts. The counties of the Sacramento valley yield annually over one-half of all the fresh deciduous fruit produced in California and over one third of the entire output, green, canned, or dried. The fruit growers are wide-awake and progressive, following modern methods in training and cultivating. Every county in the valley has thousands of acres of orchard, including almost every fruit grown. Trainloads of dry fruits are shipped from almost every station in the orchard regions. Immense canneries in various parts of the valley employ thousands of people during the canning season and pack thousands of tons of luscious fruit for the best trade. In the deciduous fruit business, too, the demand for the product has kept pace with the increased production, and there is no reason to doubt that such will long continue.

Future of Orange Growing in Central and Northern California.

The amount of land suitable for growing oranges in these valleys is practically unlimited, and results thus far warrant the prediction that within ten years the output of the counties included in the San Joaquin and Sacramento valleys will exceed twenty thousand carloads annually. As elsewhere noted, the future holds great things for the orange growing industry of the central and northern California counties, all for the reason that fruit ripens and is ready to go to the Eastern market by Thanksgiving Day. In 1893 four carloads were sent East, while last year more than 2000 carloads left the State from this section. Elsewhere tables of shipments indicate the growth of this industry. In 1901, more than half of the Oroville crop was shipped before Thanksgiving, and practically the whole was off before Christmas.

Profits of Oroville Orange Growers.

Orange culture is ever alluring, yielding returns that are almost beyond belief. The first orchard planted for commercial purposes, by the Oroville Citrus Association, has proven a veritable bonanza. It was planted for the purpose of determining whether or not oranges could be grown profitably and it has settled the point. The orchard represents a total outlay of $24,000.00. It has returned to the investors $17,000.00, leaving the net cost

to them at this time $7,000.00, and it is worth at a conservative estimate $100,000.00. The crop of oranges of 1901 sold for more than $13,000. These are facts which can be verified at the office of the company. The association is composed of Oroville business men and they have made no secret of the results of their enterprise.

Profits in e P ickled Olives.

The olive is rapidly becoming the staple product of the valley, especially of the foot-hill regions, and the success attained in the growing of this fruit is scarcely second to that which has attended orange culture. The ripe pickled olive has proved a revelation to olive consumers. It is rich, oily, delicious, and wins its way wherever introduced. The demand has increased more rapidly than the supply. A few years ago when first the olive groves of this region began to bear fruit, the growers found it almost impossible to market their product. To-day, immense pickling establishments turn out cured olives by the carload and are unable to keep up with their orders. Oroville shipped last year one hundred thousand gallons of pickled olives. The price ranges from forty cents to a dollar and a quarter a gallon according to quality, and the business is very profitable.

Olive oil is also manufactured extensively, and the oil industry is far past the experimental stage. Manufacturers who have been careful to maintain a high standard of purity and excellence find a ready market at remunerative prices, among those who have learned to distinguish the pure article. The future of olive oil making is full of promise, especially when the pure California olive oil is freed from the competition of the cheap adulterated oils of Europe.

Early Ripening Cherries.

At many points deciduous fruits ripen early. In 1901 the first cherries were shipped April 11th. In 1902, the season was later and the first cherries sold in Chicago, April 29th, for $2.30 per pound. In many cases the profits from an acre have amounted to over $200. Secretary F. E. Wright of the Sacramento Valley Development Association, says:

"The valley is the natural home of the fig. Small

DRYING PEACHES IN THE SACRAMENTO VALLEY.

orchards have netted from $180 to $200 per acre and with our present crude and imperfect knowledge of this fruit we are making serious inroads on the imported article. The vine with its products of wine and table and raisin varieties is coming to the front. Our wines are being recognized as worthy of trial. Our Tokays as table grapes are eagerly sought after in Eastern markets, and California being the only raisin producer in the Union, we have only the Levant to compete with for this trade which covers the globe.

Figs and Grapes.

Diversified Farming Replacing Grain Growing.

"The grain product of this valley is still the paramount interest, but growers are beginning to realize that there are other pursuits that bring larger returns. On account of persistent and continual annual sowing of our lands it has in places become impoverished for the grain product and this style of farming has become to a certain measure unprofitable and the era has come when the large land-holders recognizing this are turning their attention to diversified farming. The loss of the grain acreage, while somewhat startling to the old holders, is really a blessing to the new ones and the old ones, too.

"Right here is the opportunity for the home seeker to secure to himself a piece of good land at a reasonable figure, and if you can't do anything else with it pay taxes on it and watch it increase in value.

Sacramento Valley and Its Watershed.

"The Sacramento valley and its watershed is an empire in itself with its 17,908,960 acres of which 7,190,431 acres are in farms containing a population of only 224,972. This means on farms an acre to each person that are on farms, not including cities of about 320 acres. In figuring on the total of our area compared with European countries we can support a population of 3,000,000 easily, because Scotland with an area of 29,000 square miles (ours is a little over 28,000) supports 4,025,764. Scotland's conditions are not as favorable as ours.

"In making reference to the scarcity of farm help in this State which prevails, the idea of one man trying to farm 320 acres strikes me as being a little too much, in fact a great deal to ask of one man. This is what the farmer

is trying to do and doesn't it appear that he is trying an impossibility? The solution is to put a man on twenty acres instead of 320 acres. This is the only true solution of the farm labor question."

The Out-of-door Health Lift.

And right here concerning farm labor and the conditions that exist, it is well to clear the mind of the impression that has gone abroad that the farm laborer is often obliged to sleep out-of-doors. That many laborers do sleep out-of-doors is true, but a friend of mine who lives on a farm in Colusa county calls my attention to the fact that this is not a very demoralizing practice. Sleeping out-of-doors in California is regarded as an invigorating action and a health lift generally. Camping parties usually count on sleeping with nothing above them but the blue sky, and harvest hands, fruit pickers and others scorn even a tent covering and do so usually because there is no need of shelter. Thus out-of-door slumber has become a custom of the country established by the well-to-do; engendered by climatic conditions, and is enjoyed as much by the camping capitalist as by the humble harvest hand.

What Land Can Be Bought For.

Concerning prices of land, further correspondence with those informed will give details, but generally speaking it may be said that good land may be obtained in the Sacramento valley averaging in price from $25 an acre upwards, according to location and character of soil. Home-seekers are interested in the lands that are for sale, and the lands of this valley will bear comparison with any land on earth. The foothill lands of red gravel and clay are among the best of fruit lands. Foothill lands seem to be peculiarly adapted to the growth of citrus and deciduous fruits. Nearly all the oranges grown for market in the central counties of California are in the foothills, although orange trees may be found growing luxuriantly and bearing heavily in all parts of the valley region.

Deciduous fruits attain the highest perfection on these lands and some of the most successful orchard districts in the State are in the foothills. The foothill lands offer an inviting field to the man of small capital. With water they will grow anything he may care to plant, and

ENOUGH FINE STONE HERE TO BUILD A CITY OF SKYSCRAPERS—SANDSTONE QUARRY IN COLUSA COUNTY—SHIPPING BLOCKS TO SAN FRANCISCO.

known to geographer or photographer. Up here in the Sierra Nevada, 6,220 feet above the level of the sea, the air is of wondrous clearness. Clouds gather on the mountain crests all about, and floating overhead cast shadows into the unfathomed depths. The waves are of changing hues. Yellow and emerald and indigo tints are here, giving the water-color artist rapturous and busy hours. But for direct picturing of the marvelous and rapidly changing combinations of sunlight and shade, the camera is most effective. The lake is twenty-three miles long and thirteen wide—a crystal mirror in the rugged Sierra setting. Around the shores of the lake are many summer hotels and famed camping resorts. Into the lake run trout streams of unfailing delight to the sportsman. High in the mountains all about are other deep-water lakes of rare beauty.

Nature's Artistic Effects.

CHAPTER IV.

THE SAN JOAQUIN VALLEY. California's Great Central Basin—The Great Producing District of the State—A Region of Wondrous Fertility—A Vast Granary—Important Stock and Dairy Interests—The Most Important Raisin District in the World—A Treasure Bed of Horticulture—Extensive Oil Fields—Vast Timber and Mineral Lands—An Inexhaustible Water Supply—An Irrigation System of Unequalled Magnitude—What Professor Elwood Mead Says—More Irrigable Land Than Watered by the Nile—Stockton, the Delta City—Profits In Table Grapes—Great Dam at La Grange—Porterville Oranges—Fresno and Its Varied Resources—Yosemite Valley and the National Reserve—In the Bret Harte Country.

Royal the reaches of wheat in the valley!
Abundance has blessed the wide wastes of the plain,
And hosts of the strong-headed harvesters rally
At dawn-flush to garner the glittering grain.

Full hang thy orchards with fruitage of summer,
Thy citrons 'mid blossoms bless winter and spring,
But autumn, the radiant year cycle's last comer,
Bears, clustered in purple, the grape which is king.

—CHARLES KEELER.

LOOKING at the topographical map of California, the curious formation of the mountain ranges attracts the eye. The towering Sierra Nevada form the eastern border and boundary, while circling about in the form of an inverted letter C are the mountains of the Coast Range, bounded on the north by the Siskiyou and on the south by Tehachapi. Enclosed within these mountain ranges is the great interior valley of California, the north half the Sacramento, the south half the San Joaquin. Properly speaking, it is one great valley, the natural drainage from both centering in the Sacramento river, flowing westerly into San Francisco bay and out into the Pacific.

The Great Interior Valley of California.

Climatic conditions in both Sacramento and San Joaquin valleys are much alike, but to the resident each valley has its special characteristics that make it of peculiar value. No old resident of the San Joaquin, for

example, will admit for a moment that anywhere on earth exists a country superior to that about his home, and the Sacramento valley man holds equally positive opinions.

Like the Valley of the Nile.

This whole valley of California has been compared, and justly so, with the vast valley of the Nile, where the scientists and engineers of England have been at work solving the greatest engineering problem of modern times. Quoting a recent writer, A. J. Wells:

"Here is the great sea valley of California, and there is the valley of the Nile. That is ancient; this is modern. That is sown with forgotten generations; this is virgin soil, still gay with the wild flowers of its youth. There the old and the new civilizations meet, and the regeneration of the country through its agriculture is begun; here the methods of to-day wait to renew the wealth and increase the population of a valley that will one day be as famous as the valley of the Nile, and will maintain, in latter-day comfort, as dense a population."

Rich Mountain Treasure Beds.

This valley of the San Joaquin is about two hundred and fifty miles long and averages sixty miles in width, and comprises a total area of nearly 34,000 square miles. Its counties, including the foothill and mountain regions that drain naturally into the valley, comprise Amador, Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare and Tuolumne. The most northern county of the valley is Amador; the most southern, Kern. In the mountains are rich mines and richer treasure beds undeveloped. In the valley are vast areas of fertile soil, much of it well cultivated, but acres upon acres are waiting for the energy of the settler. Raisins, the equal of any the world produces, center about Fresno. Throughout the valley from San Joaquin to Kern are vast ranches producing wheat that is shipped from tide-water to the grain markets of the world.

Kern county is the center of the great petroleum industry of comparatively recent development. All along the foothills are sheltered regions where semi-tropical fruits—oranges, lemons, olives and figs,—grow luxuriantly and ripen so early as to give these regions a marked ad-

WHERE RAILWAY AND RIVER MEET. THE WARRIORS AND MILLING DISTRICT OF STOCKTON.

vantage from the standpoint of the shipper who wishes to reach Eastern markets before rival sections send their shipments.

Among Orange Groves.

Around Porterville in Tulare county there is a large area of orange groves, and shipments of oranges from Porterville alone last season (1902–1903), amounted to 367 carloads. Throughout the valley are well-tilled farms (which to every Californian are known as ranches), producing fruits and other products, including prunes, peaches, apricots, figs, olives, plums, pears, berries, wine, oranges, lemons, lumber, wheat, barley, corn, melons, potatoes, wool, alfalfa, cattle, sheep, horses, poultry.

All these products tell of the fertility of the valley, but with more people these products of this fertile district are capable of vast increase. Down from the Sierra flow rivers and creeks fed from the glaciers of snow-capped mountains, giving an unfailing water supply which needs only to be diverted to make fruitful large sections of now unproductive lands. Professor Elwood Mead, the government expert, now associated with the University of California, whose recent report is most interesting, says of the great valley, that the water supply available there, "ought to make of it the Egypt of the western hemisphere. Within a radius of five miles I saw every product of the temperate and semi-tropical zones which I could call to mind." And he adds that there are "more acres of irrigable land in the San Joaquin valley than are now watered in Egypt from the Nile, where agriculture alone supports more than five million people."

elopment Electric Power.

Not only is the water of these fast-flowing streams of value for irrigation purposes, but for the development of power, and principally electric power, for manufactures. Already several such projects are begun and a number of progressive mining companies are using power obtained from this unfailing source.

From Electra, on the Mokelumne river, forty-five miles from Stockton, a power line has been constructed to San Francisco, one hundred and forty-eight miles distant. The plants serving this line have a capacity of 15,000

YOUNG ORANGE GROVE IN THE FOOTHILLS NEAR PORTERVILLE, TULARE COUNTY, ONE OF THE THRIVING CITRUS FRUIT DISTRICTS OF CENTRAL CALIFORNIA.

horse power, which can be increased at small expense. This line supplies power for mills and factories throughout its length.

Irrigating the San Joaquin Valley.

Of the 1,446,114 acres of land under irrigation in California, according to the last Government report, 749,917 acres, or something over one-half, were in the San Joaquin Valley alone. This immense area is irrigated in part by canal systems and in part by pumping plants lifting the water from wells which tap the great reservoir of water underlying the entire San Joaquin valley, at depths varying from twenty-five to one hundred and fifty feet.

The great dam at La Grange, Stanislaus county, on the Tuolumne river, in the Sierra foothills, is an example of what can be done to harness the waste waters. Here a flow of 75,000 miners' inches is diverted, sufficient to irrigate 375,000 acres. This dam was recently constructed at a cost of over $550,000. In San Joaquin county, the delta county of the valley, there are now two irrigating systems to which a very large alfalfa, dairying and fruit growing area is tributary. The reclaimed lands of this county are irrigated through substantial flood gates built in the levees. In Fresno, Madera, Merced, Kings, Tulare, and Kern counties, an immense district is embraced within a most excellent system of irrigation.

Through each county of this valley one may go, pointing out matters of peculiar interest, but space does not permit detailed description of the advantages of the various counties. San Joaquin county alone contains 873,000 acres, and in common phrase is known as "the gateway" of this region. Through it pass most of the travelers going from Sacramento, the capital of California, to the lower counties of the valley, or to Los Angeles.

Fertile Delta of the San Joaquin.

San Joaquin county alone is a principality made up of a most enterprising population. The delta or tule lands consist of about 150,000 acres, originally classed as swamp or overflowed lands, and covered with a dense growth of flags or tules. A large portion of these lands consists of islands embraced by channels and connecting forks of the San Joaquin river. They have

ON THE WAY FOR THE MAKING OF CHOICE VINTAGES. SCENE ON EL PINAL VINEYARD, SAN JOAQUIN COUNTY.

been reclaimed by dyking in large areas, and within the past few years have been developed by intensive agriculture to rank as the most productive lands of the county. In this area are found large tracts of peat lands, which are devoted to asparagus, celery, potatoes, onions, chicory, beans, and other vegetables; black loam of unfathomed depth, made from the accumulation of decayed vegetable matter during past centuries; sandy loam, in which the detritus brought from the mountains by floods is blended with the vegetable mold of the tules; and alluvium, consisting of patches and zones of extremely rich and gritless deposits washed from the Sierra.

Fertile Islands of the San Joaquin.

The best known of the delta lands are: Bouldin Island, where there is an asparagus farm of 1,700 acres. from which two great canneries put up each season 100,000 cases of asparagus for which the world's epicures pay half a million dollars; Staten Island, largely devoted to stock raising on its evergreen pasture, but where also fortunes have been made during the past few years in growing potatoes; Rough and Ready Island, where some of the finest cherries, apricots and peaches of the State are grown; Roberts Island, an extensive tract, on which are produced the heaviest crops of wheat and barley, the most abundant yields of potatoes, beans and onions and the only chicory grown on the Coast; Union Island, similar to Roberts Island in the variety and quantity of its vegetable productions. North of Stockton, along the Calaveras and Mokelumne rivers, the soil is a rich, black, sandy loam. Here are many of the vineyards, orchards, small truck gardens and dairies of the county. In this section from ten to thirty acres are found to be a sufficient holding to enable the owner to support his family and at the same time accumulate a bank account. The newcomer, as a rule, engages in general farming and truck gardening, finding that with a few cows, chickens and an alfalfa patch an income is assured from the start.

Ten to Thirty Acres Enough.

In the immediate vicinity of Stockton is found a rich black soil that produces heavy crops of grain, produce and fruits. Southward from the city is a region whose soil is

CUTTING ASPARAGUS IN FEBRUARY, BOULDIN ISLAND, STOCKTON. THIS LAND OF THE SAN JOAQUIN DELTA IS ESPECIALLY ADAPTED TO ASPARAGUS GROWING. NOTE THE SCHOONER IN THE DISTANCE READY TO CARRY THE PRODUCT TO THE SAN FRANCISCO MARKET.

a sandy loam, devoted largely to dairying, alfalfa and grain farming.

Where San Joaquin Valley Leads.

According to the census of 1900, San Joaquin county was the leading county of the State in the production of wheat, barley, rye, potatoes and chicory. Experience has shown the county to be well adapted to the production of alfalfa, almonds, apricots, table and wine grapes, berries, peaches, pears, olives, cherries, and produce of all kinds.

On the subject of grapes and wines in San Joaquin county, Frank A. West, of Stockton, one of the leading winemakers of California, in a recent signed article says:

"The profits in grapes of the last few years have ranged from $50 to $200 per acre, according to local conditions; table grapes having in some cases yielded the last named figure and even more. I give below a few figures taken from our records of the past fifteen years which show the smallest sum received by growers in any year and the yearly average: Ezra Fiske, smallest receipts $28 per acre; average for fifteen years, $49 per acre. Fitzgerald Estate, smallest receipts, $24 per acre, average for fourteen years, $56 per acre. D. H. Loveland, smallest receipts $15 per acre, average for fifteen years, $82 per acre. J. W. Bunch, smallest receipts, $78 per acre, average for ten years, $98 per acre. A. L. Bonham, smallest receipts, $30 per acre, average for fifteen years, $101 per acre. These figures are authentic and not in any way exceptional, dozens of similar cases can be cited from our books.

Attractions of the Vineyard.

"The growing of table grapes is an industry which appeals very strongly to thrifty families, for, in addition to the excellent prices generally received for the grapes a considerable sum is received for the labor of packing, which has been comfortably carried on in the open air.

"The cost of planting and growing a vineyard depends entirely upon local conditions and upon the character of the work done; but when once in bearing the cost of cultivation and care does not vary much from $15 per acre per annum. This, of course, does not mean that a farmer having ten or twenty acres in vines will pay out in cash $15

per acre, but that to hire the work done and pay for everything used in the way of hay and feed, horse hire, labor and incidentals, will cost that much. A farmer owning a vineyard in connection with general farming is out of pocket only a very small sum in cash, for the reason that the work done in his vineyard is done when nothing else could be done. To this $15 add $2 per ton for the actual cost of harvesting a crop, and it is evident that a very small crop will pay a profit even if the present prices for grapes were cut in two."

The City of Stockton.

Stockton, the county seat of San Joaquin county, is seventh in size among the cities of California. In advantages it is second only to San Francisco; for here where waterways and railways meet, where the product of the vast fertile valley must come to reach tidewater, where miners from the foothills and mountains come for supplies, surrounded as it is by a country of marvelously rich soil, with natural gas wells for cheap fuel and lighting, with a climate so mild that the storm-bound New Englanders cannot but regard it as close to Eden — here are ideal conditions for the building up of a great city.

For many years Stockton has drawn to it large manufacturing interests. Here is the home of the combined harvester, that product of inventive brain, which enters a field of standing grain and passing through it, leaves behind filled sacks ready for shipment. Here are also woolen mills, flour mills, tanneries, a pottery that the old world might envy, the only window glass factory on the Pacific Coast, factories that turn out complicated mechanism for dredging the rivers and sloughs, big establishments that produce farm and mining implements. Between Stockton and San Francisco ply steamers carrying both freight and passengers, and the steamer trip in summer down the picturesque channel and river on through the straits of Carquinez, Suisun and San Pablo bays into the bay of San Francisco, is a favored one for the traveler.

The Delta City.

That Stockton should be known as the "Delta City," instead of the more common term, "Gateway," is the contention of many proud residents, for by reason of its loca-

tion upon the rich delta of the San Joaquin come most of its natural advantages. The rare combination here of cheap power, raw material and low transportation charges makes the city an ideal spot for the manufacturer. Natural gas underlies the city in great quantities. The oil region of the San Joaquin valley and the unlimited water power of the Sierra are easily accessible. The Tesla coal region, close at hand, comprises over twelve square miles, a remarkable mineral soil, producing good fuel coal as well as clay for pottery, limestone, manganese, glass sand and cement gravel.

The schools of Stockton and San Joaquin county rank high among educational institutions. The two high schools of the county prepare students for the University of California and Stanford University as well as for the State normal schools.

Jas. A. Barr, city superintendent of the Stockton schools, says:

"While the family man seeking a new home may inquire about soils, markets, crops, he seldom fails to ask about the schools of the particular locality he is investigating.

"The resident of San Joaquin county, present or prospective, whether his lot be cast in city, village or outlying district, is certain to secure for his children a good common school education. The eighty-four school districts outside of Stockton with their 106 teachers provide a system of schools that covers every part of the county and that furnishes as thorough a primary and grammar school education as any parent could wish for.

"In the graded schools of Stockton the course of study provides for eight years of instruction below the high school. In the schools of the county, both graded and ungraded, the course of study extends through a period of nine years, the extra year being added for the benefit of the large number of pupils who are unable to attend a high school.

"While in many of the county schools one teacher has all nine grades to instruct, the course of study is so

IN A SAN JOAQUIN DELTA POTATO FIELD—FOUR HUNDRED BUSHELS TO THE ACRE.

arranged as to secure thorough instruction in those subjects that are of most use in everyday life. The larger villages and towns have excellent graded schools, employing from two to seven teachers each.

"To the homeseeker looking toward the gateway city it may be of interest to know that the Stockton course of study is used as a text book in various State normal schools and universities, that it has been placed on each teacher's desk as a reference book in various cities in Canada and the United States, and that it has been taken as the basis for courses of study in many cities and counties throughout the country."

ncreasing Assessed aluation.

The assessed valuation of the counties of the San Joaquin valley has been steadily increasing by reason of the added productiveness caused by the industrious residents as well as by the general prosperity of the entire State. The total assessed valuation, according to the latest figures of the State Controller (1902), of all the counties of the valley is $164,777,761, an increase of $6,911,306 over the preceding year. These counties comprise a land of opportunity to-day equal to any section of this State. Men are needed here for developing not only the soil but the mines; for lumbering and irrigation projects, for home-making and for lending their brains and their labor to upbuild the State.

lvantages Modesto tanislaus Counties.

South of San Joaquin county, in order stretching across the valley, are the counties of Stanislaus, Merced, Madera and Fresno. Modesto, the county seat of Stanislaus county, is seventy-seven miles south of Sacramento, the capital of the State, and ninety-two miles north of Fresno, thirty miles south of Stockton; all these figures by rail. Modesto is a thriving city with many advantages and attractions for the business man as well as for the resident seeking health. Through the county run the Stanislaus, Tuolumne and San Joaquin rivers, the last two navigable for six months of the year.

Stanislaus presents the typical California climate; about the same weight of clothes comfortable all the year.

Typical California Climate.

The winter is short and mild, the rainfall at the county seat ranging from eight to twelve inches annually, snow unknown, frost infrequent and rarely damaging even to tender plants and the susceptible orange blossom. Roses bloom in the open air as late as December and January, and in March are again in bloom. The average temperature for November, December and January, deduced from early morning, noon and late evening observations, is fifty degrees; for June, July and August, seventy-seven degrees. Thunder and lightning are heard and seen rarely and from afar; tornadoes and cyclones are unknown elements in California. "Bright and clear" reads the weather observer's record almost uniformly, and balmy and bracing applies also save for occasional periods of a day or two in the height of summer. The heat, however, at these infrequent periods is dry and less distressing than that of Eastern cities, often when the thermometer registers twenty degrees lower.

Soil and Products.

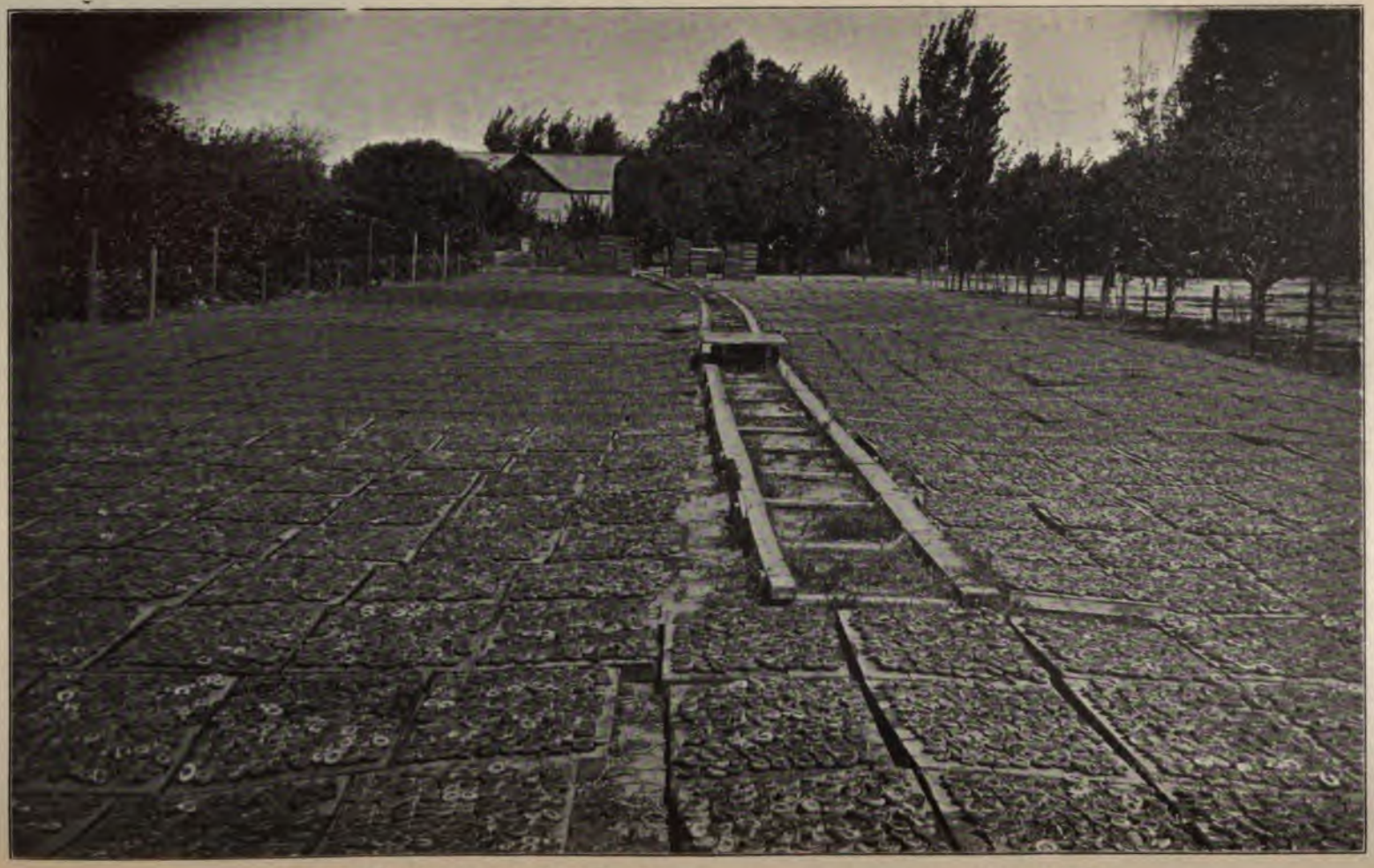
The soil is a sandy loam on the plain between the Stanislaus and San Joaquin rivers; heavier and with some adobe on the west side of the San Joaquin; a strong, red soil and adobe in the foothills. It has largely been planted to wheat for twenty-five to thirty years. The wheat crop averages from 100,000 to 110,000 tons. In 1902 the yield was approximately 100,000 tons, worth, at the ruling price at this writing, no less than $2,200,000. Stanislaus also produces annually an average of 5,000 tons of barley and 5,000 tons of rye, each of a market value of from $14.00 to $16.00 per ton. Corn and oats are produced, but in comparatively small quantities, the other cereals being more profitable as a rule. Whenever irrigation is practiced, the range of products is practically unlimited, embracing everything known to the temperate and semi-tropic zones. Oranges — choice fruit that to see is to covet — are ready for the Thanksgiving market, commanding from $2.00 to $2.50 per box, net; limes and lemons leave nothing to be desired; olives, almonds, walnuts, prunes and figs yield prolifically.

rigation stems of County.

The La Grange dam has already been referred to here. Its completion is the result of uniting two irrigating districts known as the Turlock and the Modesto: one embracing 176,000 acres lying between the Tuolumne and San Joaquin rivers; the other embracing 82,000 acres lying between Tuolumne and Stanislaus. The Tuolumne is the source of supply for both districts. This stream has a watershed second only to that of one other river of the State, carries a vast volume of water and is never-failing, fed by the perennial snows of the Sierra. The water rights of the districts take precedence over all others save that of a mining company possessing a very limited appropriation. The United States hydrographer's reports, covering daily measurements extending over a series of years, demonstrate that the flow of the Tuolumne river, at the point where the water is diverted by these irrigation systems, is never less than five thousand cubic feet per second and frequently rises to ten thousand cubic feet per second. The Turlock district appropriation is fifteen hundred cubic feet, or seventy-five thousand acres, or twice the area embraced in the district. The appropriation for Modesto district, with about half the acreage of Turlock district, is in corresponding ratio. The dam is located just above the historic mining town of La Grange, in the foothills of the Sierra, thirty-two miles distant from the centers of the districts, and constitutes one of the greatest structures of the kind in the world. It is three hundred and twenty-seven feet in length, ninety-seven feet through at the base and twelve feet through at the crest, one hundred and twenty-seven feet in height, arching up stream.

: Canal ystem.

The Turlock district canal system comprises twenty-two miles of main canal, seventy-four feet in width at the bottom and designed to carry a maximum depth of eight feet of water; two main laterals, aggregating thirty-five miles, forty feet in width on the bottom; and six sub-laterals, aggregating eighty miles in length, ranging from eighteen to forty feet in width, floor measurement. The main canal of the Modesto district system is sixty-two feet in width on the bottom, and will supply ninety



SUN-DRYING PEACHES IN THE ORCHARD DRYING LOT, STANISLAUS COUNTY.

miles of laterals ranging from eighteen to forty feet in width.

ıe Great Garden.

The Turlock district system represents a bonded indebtedness of $1,200,000 at five per cent, the bonds running forty years, no part of the principal payable until 1922. The Modesto district system represents a bonded indebtedness of $1,100,000, at five per cent, no part of the principal payable until 1922. The tax to defray interest and maintenance averages forty-five cents per acre in the Turlock district, the property embraced in the city of Modesto paying two-fifths of the Modesto district tax, which would otherwise be eighty cents per acre. After 1922 one-twentieth of the principal of the bonded indebtedness will be payable annually; or the bonds may be refunded at lower interest.

It is figured by residents that in a few years over eighty-two thousand acres in the center of the county will by reason of the water brought upon it become one great garden. Here, already, are thriving orchards and vineyards and extensive tracts of alfalfa—that prolific forage grass that is the wonder of the stranger and pride of the Californian and the all-the-year-around food friend of cattle and horses. Concerning alfalfa and what it stands for, T. C. Hocking, President of the Stanislaus county Board of Trade, says:

rying in nislaus.

"Dairying is becoming a very prominent industry, because of the favorable conditions and excellent profits. Twenty acres in alfalfa will support thirty cows, and one man at a salary of $35.00 per month will milk and care for the herd. The milk will bring at the creamery from $4.50 to $7.00 per cow, according to the grade of the cow. The skimmed milk, returned and fed to calves and hogs, will afford an income sufficient to meet expenses, leaving the returns from the creamery net profit. Modesto Creamery patrons received twenty cents a pound for butter fat furnished in May, 1902. The land can be purchased in small tracts at from $25.00 to $40.00 per acre, and can be graded, checked and planted to alfalfa for from $6.00 to $10.00 per acre—for $6.00, if the man does the work him-

self; $10.00 under contract. Planted in the fall alfalfa attains a fine stand by spring, and is good for seven years without re-sowing, yielding five crops annually, each crop one and one-half tons to the acre, affording pasturage after the curing season. With a few acres in alfalfa, and a few cows, a family is assured of a living within a very brief period. There is a creamery at Ceres and a model ten thousand dollar creamery at Modesto, with skimming stations here and there. Crop Yields.

"Another product providing a ready and early source of income is the sweet potato. It is produced to perfection in this sandy soil and by aid of irrigation, the crop maturing in four months. The yield is from eighty to two hundred sacks to the acre, commanding an average price of about ninety-two cents per sack. Land producing sweet potatoes is invariably choice land for peaches, which are always in demand by the canneries at prices affording net profit from $75.00 to $150.00 per acre. Melons, beans, corn and like products also yield abundantly on this land."

Stanislaus has a population of between ten thousand and eleven thousand, and an assessment roll of $1,200,000, the State and county tax for the seventeen years averages $1.38 cents on each $100.00 assessed valuation. The county has neither bonded nor floating indebtedness.

Merced County.

Next south of Stanislaus is Merced, a little to the north of the geographical center of California on either north and south or east and west measurement. It is a parallelogram in shape, measuring sixty miles from the Sierra to the Coast Range, and forty miles from the counties of Madera and Fresno on the south to the county of Stanislaus on the north. It has a total area of 2,600 square miles, or 1,664,000 acres.

Grain Growing and Stock-raising.

The western edge of the county is mountainous, but nearly the whole of the remainder is good, level land, and nearly all of it adapted to the higher forms of agriculture that go with irrigation. A very considerable area of the county is taken up by a few large ranches, whose size runs

WHEAT, FROM FIELD TO MILL. COMBINED HARVESTER IN ACTION. WHEN THIS MODERN MECHANISM PASSES THROUGH A GRAIN FIELD, THE GRAIN IS SACKED AND READY FOR SHIPMENT. NOTE THE MAN TO THE LEFT STANDING WITH THE GRAIN REACHING TO HIS SHOULDERS.

into the tens of thousands of acres. These are used chiefly for the production of grain and for stock raising. One by one, however, they are being subdivided and placed on the market, and new districts are opened up for settlement. There is plenty of good land and good water to be had in Merced county at fair prices, and in the next decade its farming population is likely to increase to two or three times the present figures.

Abundance of Water.

The San Joaquin river flows through the eastern part of Merced county in a stream, which, in the rainy season, is large enough to admit of some navigation. Into it flow on the west a series of small creeks: Los Banos, Sycamore, San Luis, and others; and on the east there are the Merced river, a large volume of water, the Chowchilla river, Bear creek and the Mariposa. There is an abundance of water for present use and enough is flowing to waste in the San Joaquin to water a vast area which is now only used for wheat. The soil varies in different sections of the county, but the greater part of it is a sandy loam of great depth.

Wheat is still the largest single crop of the county. Its production is carried on in the wholesale manner that usually prevails in the San Joaquin valley. Barley, oats, and corn are also grown in quantities; the first of them is exported chiefly for brewing purposes and the product raised in Merced county is particularly bright and free from rust. There is a successful creamery in operation near the town of Merced, and the butter which is shipped from there to San Francisco commands a price above the market average for its superiority.

A Sweet Potato Region.

One unique agricultural feature of Merced county is the growing of sweet potatoes. The district northwest of the town of Merced, near the stations of Atwater and Batata, produces about two hundred carloads of the vegetable annually, and the "Merced Sweets" are the standard of the San Francisco market. The soil of this region seems to be particularly adapted to them, and the product averages fifteen thousand pounds to the acre, bringing about a cent a pound. Plenty of instances could be quoted where

they have yielded the grower two hundred dollars an acre, although the average is, of course, much lower.

Acres of Insect Destroyer.

Another unique product of Merced county is the buhach, from which insect powder is manufactured and sent all over the United States. Over three hundred acres are devoted to the pyrethreum plant, as it is called, and the business is said to be very profitable. The town of Merced, the county seat, contains about three thousand population, and is an incorporated city of the sixth class. It is one hundred and forty-three miles from San Francisco. Here is a flouring mill with a capacity of one hundred barrels a day, two electric plants, and a number of shops and prosperous stores. People are wide-awake and enterprising and have a Board of Trade, which is at work making the merits of the county widely known. Other towns in the county are La Grand, Snelling, Dos Palos, Los Banos, and Batata.

Fresno's Position and Area.

Fresno county is located in the center of the San Joaquin valley. Fresno, the county seat, is the geographical center of the State. The boundaries of the county extend across the San Joaquin valley, from the Coast Range mountains on the west to the summit of the Sierra Nevada on the east. The county contains 5,606 square miles or 3,587,840 acres, of which it is estimated fully 900,000 acres are tillable soil. The census of 1900 gave the county 41,000 population and Fresno city now (1903) has a population of about 20,000.

Topography and Climate.

Fresno county presents a great variety of climatic conditions and soil. It is divided into four regions — the foothill region, the valley region, the timber or forest region, and the region of snow and ice. It will be readily understood that with such a variety of topographical conditions a corresponding variety of climatic condition exists. The yearly seasons are two. The dry season usually begins about June 1st and lasts until about the 1st of November. The average rainfall is about ten inches. There is an average of two hundred and seventy-five days of sunshine in the year. There is no time in the whole year

ONE OF FRESNO'S SHADED HIGHWAYS, AN AVENUE EIGHT MILES LONG, ONE HUNDRED FEET WIDE, BORDERED BY ALTERNATING PALM AND EUCALYPTUS TREES.

that men and teams may not work out of doors. The extreme summer temperature ranges from ninety to one hundred and ten degrees, but the atmosphere is very dry and the heat is not so perceptible as in localities where there is a humid climate. The nights are nearly always cool. There are no sunstrokes, no hail storms. The health reports show that Fresno city and county death rates are the lowest of any in the State.

Irrigation and Production.

The county is irrigated mainly from the Kings river, which rises in the Sierra Nevada mountains and passes through the entire farming district, though there are other principal sources capable of large development. The distribution of water is operated by splendid irrigation systems, comprising thousands of miles of main and branch distributing canals, supplying an abundance of water at a minimum cost of 62½ cents to a maximum of 75 cents per acre per annum. A failure of crops on irrigated land is unknown. The principal products are: cattle, horses, sheep, hogs, hides, wool and tallow, lumber, firewood, gold, copper, petroleum, wheat, barley, oats, rye, corn, oranges, lemons, olives, figs, all kinds of deciduous fruits, table grapes, raisin grapes, dried fruits, raisins, wines and brandies, butter, cheese, poultry, eggs, all kinds of garden vegetables, sweet and Irish potatoes, tomatoes, celery, melons, all kinds of berries, honey, etc. There are 1,194,900 deciduous fruit trees in the county and this number is added to each season. There are 77,255 acres of vineyard producing wine and raisin grapes.

Fresno Land Values.

Grazing and foothill lands not under irrigation are obtainable at from $5 to $10 an acre and grain land at from $15 to $25 an acre. Land with water, suitable for alfalfa, fruit and vines, at from $35 to $75 an acre. First class vineyards in full bearing command from $250 to $350 per acre; good orchards in bearing from $150 to $200 per acre; unimproved citrus lands from $50 to $100 an acre.

Industries of the County.

Fresno county is the greatest raisin producing district in the world. Making raisins is a very simple process, and one that any intelligent man can engage in successfully with the information that is always to be had from

WHERE THE KINDLY SUN HELPS THE HORTICULTURIST. RAISIN DRYING IN THE VINEYARDS NEAR FRESNO.

others engaged in the business. Wine grapes are also very profitable. They require less handling than the raisins, as they are picked and carted to the winery at once.

Deciduous trees of all descriptions thrive and the orchard business is one of Fresno's most profitable enterprises.

Olives, Figs, Oranges and Lemons.

The fig in Fresno county deserves particular mention, as there is no other locality in California where this fruit will do as well or where so much has been done in cultivating and improving the fruit. As the result of the efforts of Mr. George C. Roeding, a prominent horticulturist, Fresno now produces the Smyrna fig, an achievement which has not been accomplished anywhere else in America.

Oranges are grown successfully, but the oldest groves are located in the eastern part of the county, at the base of the foothills. The citrus fruits of this district have repeatedly taken prizes at district citrus fairs, State fairs and international expositions. The advantages that Fresno claims are freedom from frost and certain conditions of soil that produce a superior fruit, but the chief advantage is the fact that Fresno county oranges ripen and are ready for market about November 1st, thus reaping the benefit of the early high prices in the Eastern markets. Orange trees begin to bear the fourth year after planting. At five or six years of age the trees should bear well and yield a handsome income. Lemons are also successfully grown.

Alfalfa and Dairying Profits.

Alfalfa grows luxuriantly and is the basis of success of the dairy industry. The yield from an alfalfa field is very large. The hay is shipped from Fresno in large quantities to Southern California and Arizona. One acre of alfalfa will keep a cow the year through. Raising alfalfa provides the surest and quickest means of obtaining an income, and dairying is one of the most attractive occupations, as it provides the opportunity to raise money during the time required for trees and vines to come into bearing. Fresno has some very extensive creameries and these have established skimming stations all over the

HOLSTEIN AND OTHER DAIRY CATTLE IN SAN JOAQUIN VALLEY.

county, where the farmers sell their cream. To any thinking man who knows about dairying, these conditions suggest the way to a profitable business. The late Mr. McNulty, manager of the San Joaquin Creamery, said in an article on dairying:

What Dairymen Say.

"The question is often asked, 'does dairying pay?' It is my opinion that there is no other place on the map of the world where one's finger can be placed where feed can be grown so abundantly and cheaply as in the San Joaquin valley. Alfalfa is pre-eminently a cow feed, and the butter produced from the milk of alfalfa-fed cows, if skillfully and scientifically handled, produces a texture and a flavor that cannot be surpassed."

The manager of the Danish Creamery, Mr. Murphy, says the average amount paid for butter fat is $55 to $60 per cow annually. This is exclusive of the value of the calf and the skim milk. Another Fresno county dairyman says: "I milked last year an average of forty-three cows per month; sold during that time butter fat to the amount of $55.93 per each cow; also raised and sold calves and hogs to the amount of $19.71 per each cow, making the total earnings of each cow for the year, $76.65."

All kinds of cereals are successfully grown in Fresno county without irrigation. The area sown to wheat and barley is 335,981 acres annually. The gross value of cereals, alfalfa, hay, wine and raisins aggregated for 1902 $8,749,958.

ltry, Eggs Melons.

Poultry farming is a source of large profit to the farmer. There is always a good market for eggs and chickens. Honey is another source of profit. Alfalfa honey is very fine and ranks with the clover honey of the East. Vegetables, small fruits and berry farming are other means by which the farmer may easily add largely to his income.

ttle, Hogs l Sheep.

Cattle, hogs and sheep are all raised in large numbers for both home use and for shipment. In fact, so favorable are the conditions for this business in Fresno that thousands of cattle are brought from Arizona and coast districts to the pastures of Fresno county, where they are

BREAKFAST FOOD IN ITS EARLY STAGES. SWINE ENJOYING A SKIMMED MILK LUNCHEON ON A SAN JOAQUIN VALLEY STOCK FARM.

fattened for the markets of San Francisco and elsewhere. Hogs are a source of great profit, both to the large stock-grower, the small farmer and the dairyman.

Minerals and Lumber.

The mountains in the eastern part of Fresno county are vast storehouses of wealth. Almost every known mineral is to be found, and while some few mines are worked this great region of mineral wealth is practically not exploited at all. In the mountain region are the great forests from which vast quantities of lumber are made annually. This includes yellow and sugar pine, cedar, fir and redwood. Some of the trees from which this is cut are the largest in the world, being the *Sequoia Gigantea*, measuring over one hundred feet in circumference.

Oil in Fresno.

Fresno county is a large producer of petroleum. The wells are located in the southwestern part of the county, in the vicinity of Coalinga. The district comprises some wells that are among the best in the State. This supply of oil for fuel so near to Fresno is a very great advantage. It means close at hand cheap fuel for all purposes.

Manufacturing Interests.

Among the manufacturing and commercial enterprises of Fresno county the packing houses, annually handling thousands of tons of fruits and raisins are easily first in importance. Recent inventions for extracting seeds from raisins have enormously increased the consumption and the industry gives employment to thousands of men, women and children. The wineries are being largely augmented and are among the finest and most extensive in the country. There are also flouring mills, ice factories, creameries, cream of tartar works, agricultural implement and box factories, canneries, a brewery, planing mills, sash and door factories, soap factory, macaroni factory, brick and tile works, oil refineries, etc.

Fresno's Schools.

The public school system of Fresno is unexcelled. The buildings are modern and well equipped. The Fresno City High School is one of the most imposing structures of its kind in California. There are seven High Schools in the county, two of which stand upon the accredited list of the State University and pupils are graduated and prepared for collegiate course.

IRRIGATING AN OLIVE ORCHARD IN THE HEART OF THE SAN JOAQUIN VALLEY.

The City of Fresno.

The city of Fresno ranks third in shipping importance in California. It is the metropolis and business center of the San Joaquin Valley and the natural gravitating point for the production and commercial energy of a great and enormously productive country. It is a railroad center, eight lines radiating from it. Fresno city and most of the principal towns of the county are on the two transcontinental railroads, the Southern Pacific and the Santa Fe, which furnish the best facilities for transportation and for shipping.

Fresno's Progress.

In addition to the advantages named, the city has an opera house, good churches, five banks, a county courthouse costing over $200,000, a new $30,000 library, the gift of Andrew Carnegie, and Congress during the last session appropriated $150,000 for a federal building. There is marked activity in building. A large number of new business blocks and fine residences have been built and are constantly in course of erection. A great deal of substantial street improvement is being done and pavements and cement sidewalks extend in every direction. One of the greatest marks of progress during the past year has been the building of a system of electric cars. It serves not only the city of Fresno but extends into the more populous suburban localities and is being extended to the mountain regions. The city has a good sewerage system, well paved streets, good fire department, gas, electricity, good water, and an efficient postal service.

The City's Advantages.

In fact, Fresno is a first-class modern city. It promises much for the future. Fresno's trade is on the increase constantly. It occupies the center of a locality which produces enormous quantities of readily saleable commodities. All of the conditions for manufacturing are close at hand—cheap fuel, cheap power, and unlimited possibilities for the production of raw material of almost every kind. The great need of the city and county is population — people who are willing to work, who will take advantage of the natural conditions waiting to be utilized for the benefit of mankind.

Picturesque Basque Colony.

Up in eastern Kern is a curious settlement of Basque sheep-herders, roaming the steep slopes and canyons, guarding their flocks and living in a primitive wildness suggestive of the rugged conditions that prevail in their native Pyrenees. And this adaptability of the old world resident to the new world is one of the alluring attractions as well as one of the novelties of all California. The observing traveler finds stowed away in some inviting nook, anywhere from Mendocino to San Bernardino, natives of far-away lands, who have come here simply because of the charms that Nature offers, comfort and happy living. In few other States is there to be noted the wide diversity in this respect. In Kansas, Nebraska and the Middle West one finds communities made up almost entirely of Germans, Swedes, or transplanted Kentuckians or Ohioans. All these and more does California harbor; to all these and more does the State extend the open arms of welcome. Industry and law-abiding are the only price to pay for making a home in this region of all regions where sun is king.

Oranges of Tulare.

In Tulare county, on the foothill branch of the Southern Pacific, is the orange-growing section heretofore referred to and of which Porterville is the central shipping point. Here are more than 6,000 acres planted in the best varieties of oranges and the shipments to eastern markets are increasing rapidly. The county seat is Visalia, a picturesque city in the foothills and the center of a fertile and attractive region. In Tulare county is located the Sequoia National Park, a reserve of monster trees of the sequoia gigantea. Just beyond the county's eastern boundary, Mt. Whitney (14,898 feet), the highest mountain in the United States, excluding Alaska, rears its snow-capped summit.

Kern County Oil.

In Kern county, the southern-most county of the valley, are the wells of crude petroleum that recently have drawn to this section investors and speculators from everywhere. The product is being shipped throughout the United States and is proving a bonanza for all concerned.

PICKING OLIVES IN DECEMBER IN A SAN JOAQUIN VALLEY ORCHARD.

The Kern river district is the most productive of all the oil fields in the county. The other producing districts are the Sunset, McKittrick and Midway. Because of the valuation made by the discovery of oil, land values rose in this district from $1.25 an acre to four, five and even ten thousand dollars an acre. The Kern delta is a vast estate of 400,000 acres, which is under a system of irrigation remarkable for its simplicity. Nature has done everything possible to make Kern river an ideal stream from which to divert water into artificial channels at minimum expense. Large areas are being annually added to the irrigable territory. The county contains many artesian wells. Kern river is said to contain minerals which have a wonderful fertilizing effect. The Kern river is the source of power for an electric generating plant, from which power is transmitted to Bakersfield and Kern City for illumination, factories and the operation of a street railway two miles in length, connecting the two places.

The Kern River Delta.

In the classification of the counties of California, the foothill and mountain counties of Mariposa, Tuolumne, Amador, and Calaveras, whose watershed is toward the west, are naturally included in the great San Joaquin valley. Of Amador, Calaveras and Tuolumne readers from far away have heard much in the romances of Bret Harte, for here are located the picturesque old mining towns of Angels, San Andreas, Douglas Flat, Dry Town, Mokelumne Hill, Copperopolis, Poverty Flat, and other settlements as rich in nomenclature as they were once and are still in gold. But there is more than romance about these regions of Sierra pine and red soil and granite bedrock. Here is the vast region of the Mother Lode from which countless millions in gold have been taken, and in which millions more remain to make the fortune of the prospector and investor. All through this section are rich mines with big outputs, and mining improvement and development is going on constantly.

Rich Foothill and Mountain Counties

Jointly in Mariposa, Tuolumne and Madera counties is located the Yosemite National reserve, the Yosemite valley, that world wonder being located in Mariposa

To the Yosemite.

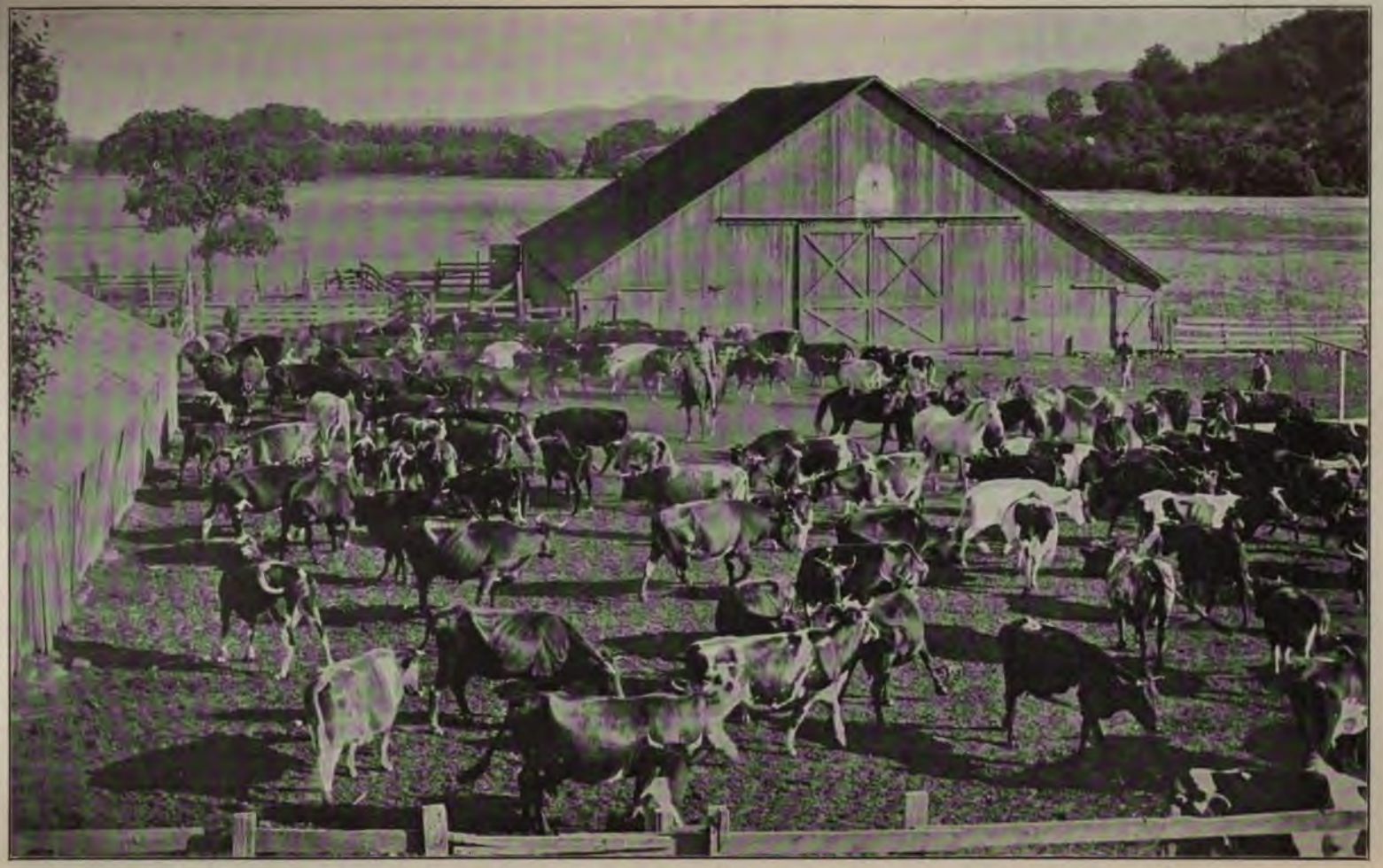
WHERE NATURE AND SCIENCE COMBINE TO HELP THE FARMER. TRACTION ENGINE PULLING GANG PLOWS THROUGH PEAT LANDS OF THE SAN JOAQUIN DELTA. THESE LANDS ARE ESPECIALLY ADAPTED TO THE GROWING OF POTATOES AND OTHER CROPS

county. To reach the valley are several different routes, the principal one being by way of Raymond and Wawona, by Oakdale and Jamestown, and by way of Big Oak Flat. A railroad has been projected to the boundaries of the great national park, and this means great things for the progress of Mariposa county. The soil is fertile and beneath the soil is gold, which miners have been working since the earliest days of the California gold excitement. Up on these mountain slopes are orchards of apples that have won fame for the quality which is given by the climatic conditions here. The mountains are covered with magnificent forests of sugar pine. Lumbering and mining and fruit raising constitute principal industries. There is no space to describe the marvels of the great Yosemite, that gorge in the Sierra Nevada to which awe-inspired tourists come time and again and always parting with the feeling of impressed grandeur caused by their better acquaintance with this marvel of Nature's handiwork.

An Apple Raising Region.

Through the San Joaquin valley north to south with many branching lines run the overland routes of the Southern Pacific and Santa Fe railroads. Here also is the Sierra Railway running up into the mountains, and various lines of stages traverse the country, making easy easy access to all points. From Bakersfield to the sea at San Luis Obispo or near there is projected the Midland Pacific Railway, whose promoters promise a speedy completion of a line which will afford the south San Joaquin valley a sea outlet. Through the valley run many trains daily both local and through, and both transcontinental lines are eagerly competing for the vast growing trade of this prosperous region.

Railroads Present and Planned.



IN THE CENTER OF THE DAIRYING DISTRICT. MILKING TIME ON A FARM AT NOVATO, MARIN COUNTY.

CHAPTER V.

COAST COUNTIES NORTH OF SAN FRANCISCO. Beautiful Valleys of Napa and Sonoma—Vineyards and Wine Cellars—Last of the Old Missions—Petrified Forest—Cities of Santa Rosa and Napa—Lake, the Switzerland of California—Redwood Timber Forests of Mendocino, Humboldt, and Del Norte—Rich Mines of Trinity—Marin and Its Sky-seeking Railway—Summer and Winter Resorts and Mineral Springs—Traces of Russian Occupation—Sportsmen's Paradise in the Eel River Country—Progressive Eureka and its Future—Sheep and Cattle Raising—The Largest Wine Tank in the World.

Now in midwinter, see! the buds unfold;
The yellow poppies open one by one;
The mountain streams, bound by no despot cold,
Flash through the woods, rejoicing as they run.
A most fair land: it is the land of gold;
It is the land of pleasure and the sun.

—FLORA MCDONALD SHEARER.

AS the State increases in population the large coast region north of San Francisco must grow steadily, for its resources are the marvel of all visitors. Here is a region of vast area, of unfailing rainfall, well supplied with timber, rich in minerals, with thousands of sheltered valleys and yet with population comparatively small. More railroads and more people are needed for development. The Southern Pacific, California Northwestern, the North Shore, all have lines which pass through this rich and growing territory. The forests of Del Norte, Humboldt and Mendocino and the rich mines of Trinity are the primary objects for railway extension, but fruit-growing, wine-making, hops, grain, alfalfa, cattle, and the thousand and one agricultural and horticultural industries must grow up and thrive on a scale unimagined at present. The harbors of Eureka and Crescent City are excellent. The fleet vessels of the Pacific Coast Steamship Company now ply between them and San Francisco.

ard 's of ate.

Of this group of counties, Marin, Sonoma and Napa have been settled the longest and have characteristics somewhat similar. Sonoma and Napa are the vineyard valleys of the State. The population of Sonoma ranks sixth among the counties. Of the 25,000,000 gallons of dry wines produced by the State last year (1902), Sonoma county alone produced considerably more than half. The hill-sides as well as valleys in this section are especially adapted to vine-growing. These wines, like all California wines, have been slowly winning their way to a place in the high estimation of connoisseurs and have secured many awards at the great world's expositions. Within the past two years the wine-making industry has received a new stimulus and to-day vast areas of hillside and valley are being cleared and planted with the choicest varieties of vines.

gest ine lar.

St. Helena in the upper end of the Napa valley boasts the largest surface stone wine cellar in the world, known as the Greystone, having a capacity of over 3,000,000 gallons. The building is three hundred feet long, one hundred feet in depth, and four stories in height, with several connecting tunnels extending far back into the hillside. Around this section are many other vineyards, nearly all with cellars constructed on the tunnel plan, the soft volcanic rock being readily tunneled. These cellars are modeled after those of the Old World and are especially valuable for ageing wines.

A ard ict.

Near St. Helena is Howell mountain, a famous vineyard district noted for the fine character of the soil, peculiarly adapted to producing grapes that make wine of high-class, delicate flavor. This Howell mountain plateau is gaining wide fame as a sanitarium for the relief of lung and throat troubles. The plateau is covered with balsam fir and pine trees and the air the year round is dry, warm and delightful. A short distance from St. Helena is a sanitarium, a branch of the famous sanitarium at Battle Creek, Michigan, where a large business is done in the manufacture of health foods.

THE PIED PIPER OF PETALUMA. A POULTRY FARM AT FEEDING TIME.

Many Acres in Vines and in Olives.

Around St. Helena and other points in the Upper Napa valley, oranges and lemons thrive well and ripen early as well as figs, almonds, olives, prunes, peaches and nearly all varieties of fruit. The wine made in 1858 in Napa county was the real beginning of the viticultural industry in California. It was at once recognized that in Napa county all the climatic and soil conditions combined to make the culture of wine grapes successful. A vineyard on resistant stock will yield each season from three to eight tons of grapes to the acre, which at present prices will bring from $1 75 to $200. Wine is selling at from twenty to twenty-seven cents per gallon, in large quantities, making the industry exceedingly profitable. The culture of the olive pays in Napa valley, and no finer brand of olive oil or pickled olives can be found than that put upon the market by Napa producers. From five acres of ten-year-old trees, Mr. Vincent Smith (whose olive grove is three and a half miles from the city of Napa) last season gathered four tons of olives, worth $50 per ton in the open market. Nut-bearing trees are on the increase, and almonds and English walnuts are sure and profitable crops.

At Napa, the County Seat.

A notable feature of Napa county is its stone bridges and culverts. Over $70,000 have thus far been expended in this one county in making these enduring and necessary monuments. One bridge alone across Putah creek in Berryessa valley cost over $19,000. Around Napa, the county seat and a thriving modern city, are many private schools, and in this section of the county are a large number of manufacturers. Just below Napa is an elaborate plant for the manufacture of cement from native rock, and in the city are glove and shoe factories, canneries and wineries. A branch of the Southern Pacific runs through the entire length of the Napa valley. The city of Napa is on Napa creek, which is navigable for small steamers which ply between here and San Francisco.

The Bohemian Club Grove.

A short distance above Guerneville on the Russian river is Bohemia Grove, the summer outpost of San Francisco's Bohemian Club, an organization of artists and

writers widely known for the work done by its members in creative lines. The club is the only club in the world which owns a grove of one hundred and sixty acres of redwood trees, and here for several weeks in the summer the members gather, Druid-like, and join in revels and worship beneath these forest veterans, whose growth began when Carthage was a world power. These midsummer gatherings draw visitors of kindred minds from faraway points, and they go away telling not only of the revels but of the wonderful climatic surroundings and the comfort of sleeping under the trees in the open air.

Sonoma's Flourishing Towns.

In Sonoma is prosperous Healdsburg, and the progressive towns of Cloverdale and Geyserville. Near Cloverdale is the largest orange grove in the county. Healdsburg is in the foothills at the base of Fitch mountain and in the beautiful Sotoyome valley (valley of flowers), with the Russian river flowing at the outskirts of the corporation limits on the east and south and the evergreen Coast range hills rising to the west. It derived its name from Harmon G. Heald, who built the first house and opened the first store in 1855. The town is on the line of the California Northwestern railway, sixty-six miles a little west of north from San Francisco, twenty miles from the ocean in direct line and sixteen miles from Santa Rosa, the county seat. Healdsburg is an incorporated city and contains several mills and factories. Within five miles there are 5,000 people. An important feature of Healdsburg is the municipal ownership of its electric light, power and water system. A storage reservoir in the hills supplies water to operate a 200 horse-power Pelton wheel for generating power. A transmission line eight and three-quarter miles long conveys the power to the city.

Cloverdale Power.

Cloverdale has recently been supplied with an electric light and power plant, by a company organized by A. Sbarboro, its president. The water is taken from Sulphur creek and delivered through a flume four feet square to a modern power house near the mouth of the Russian river, with a fall of 300 feet. The plant will supply light and power to Cloverdale and surrounding country—Preston,

A HOP FIELD VISTA NEAR EL ROBLES, SONOMA COUNTY.

Italian-Swiss Colony at Asti, Geyserville and the shortage required by Healdsburg.

Mt. St. Helena or Silverado.

At the head of Napa valley with its slopes running to Lake, Napa and Sonoma counties, is Mount St. Helena, 4443 feet high, known in Spanish as Silverado and made famous in story by Robert Louis Stevenson, who lived here for a time before taking up his permanent residence in Samoa. Russia was once anxious to keep its hold in Northern California, and St. Helena is an enduring monument of the aggressive ambition and skillful diplomacy of that powerful nation. Just before their departure from Ross, the Russian settlement on the coast of Sonoma, in 1841, Wossenessky, a naturalist, ascended the mountain, attached a lead plate to its summit bearing the day and date of the ascent and the name Helena which he bestowed upon the mountain in honor of his Imperial mistress, the Empress of Russia, thus marking the end of an unequalled march of conquest and colonization extending from the Ural Mountains in European Asia through Siberia to Alaska and thence to the northwest coast of California.

In the mountain ranges around Mount St. Helena are numerous deposits of quicksilver and one of the best producing mines of the State is located near Calistoga. Around here also are numerous mineral springs and health resorts.

Santa Rosa and Surroundings.

The county seat of Sonoma county, Santa Rosa, is one of the attractive cities of the State, with electric lights and all modern improvements. The city is reached by two railroad lines, the Southern Pacific and the California Northwestern, the latter line extending far beyond to its terminus at Willitts in Mendocino county. All about Santa Rosa are fruitful orchards, productive vineyards, and fertile fields. Olives, oranges, prunes and all fruits bear abundantly. Below Santa Rosa is old Sonoma, the oldest town in the county, where the Bear Flag was raised in 1849, and the site of one of the chain of missions established by the padres of old Spain, extending

at intervals of a day's journey up the California coast from Mexico.

Products of Sonoma.

It is claimed by Sonoma that it is the most diversified in its products of all the counties of the State. Its superficial area is one million acres. It is bounded on the south by the bay of San Francisco, on the west by the Pacific ocean, on the north by Mendocino county, and on the east by the Mayacmas range of mountains. At least half the area of the county is valley or foothill land. In the foothills are tracts of alluvial soil which equal the valleys in fertility; they are warmer, drier and better for many purposes than valley lands. The finest wine grapes, citrus fruits, olives, apples and nuts are grown in the foothills. Of the land suited for the growth of staple crops, grapes, olives, fruit and berries, not one-half is under cultivation, leaving a vast field for future development.

The population of the county is over forty thousand, mostly engaged in agricultural pursuits. Its assessed wealth is $29,000,000. Its annual production of wealth from the soil is $7,500,000. This is one hundred and seventy-five dollars per capita for every inhabitant, including women, children and all other non-producers. Or to put it another way, it is nine hundred dollars a year for every registered voter in the county. The view of the great central valley about Santa Rosa, especially from the coast hills opposite its background of encircling mountains is of vast extent and beauty.

n the Gold Ridge Country.

Just west of Santa Rosa is the Gold Ridge country, where the best of apples, berries, stone and seed fruits are grown. It is fifteen miles in length by a width of six miles, and is one hundred feet above the level of Santa Rosa valley, which it parallels and bounds for fifteen miles on the west. Its soil is a rich sandy loam, apparently of marine origin, naturally drained and easily cultivated. Apples are a very profitable crop on this fruit ridge. They produce with proper care and culture forty boxes to the tree, worth from thirty-five to seventy-five cents a box. There are eighty trees on an acre. The yield is readily figured, and runs into hundreds of dollars per acre. Prunes

THE GOLD RIDGE FRUIT COUNTRY NEAR SEBASTOPOL.

yield from one hundred and fifty to two hundred dollars per acre, and berries one hundred and fifty dollars per acre. The experimental farm of Luther Burbank, the wizard of horticulture, is on this ridge, though his home is in Santa Rosa.

Thriving Colony Near Cloverdale.

Three of the largest wineries in the State are in Sonoma county, two of which are in or near Santa Rosa. They have made the wines of Sonoma as famous as the Falernian of ancient, or the Chianti of modern Italy. The Italian-Swiss Colony has its principal vineyard near Cloverdale. During the vintage of 1902 the colony crushed in its different wineries 40,000 tons of grapes, producing over six million gallons of wine and brandy. The colony's trade has extended all over the world. The colony which commenced in 1881 with no capital but the income being derived from the sale of 2,250 shares of stock payable by monthly installments, now has several vineyards and wineries in different parts of the State, with a total capacity for production and storage of 11,500,000 gallons.

The Largest Wine Tank in the World.

At Asti near Cloverdale, on the colony property, is the largest wine tank in the world. This tank was built after the adage that "Necessity is the mother of invention." In 1897 the grape crop in California was larger than any previous year; vintage was nearly at hand and it was too late for the colony to have tanks built in which to store the wine that was to be made from this enormous crop of grapes. In the rear of the winery there existed a hill of rocky formation. The secretary of the company, Mr. Sbarboro, conceived the idea that a hole could be dug in this hill and a reservoir made to hold the surplus quantity of wine, and immediately set to work on the project. Some of his colleagues hesitated to do the work for fear that the reservoir might leak and thus cause an enormous loss, but after considerable argument, he convinced them that by building a concrete wall two feet thick all around the inside, putting also a concrete floor a foot thick and a concrete top all hermetically sealed, that there could be no danger of any leakage.

It required forty-five days and nights to build the tank,

fifty men and twenty-five teams being employed for that purpose. When the tank was first filled, tests were made daily through an air pipe to see if any leakage took place, but it was perfectly tight. It took two steam pumps seven days to raise the wine and fill the tank.

A 500,000 Gallon Wine Tank.

After leaving the first wine in the tank ninety days it was withdrawn and distributed into twenty-five thousand and forty thousand gallon wooden tanks in the cellar below through a four-inch galvanized iron pipe reaching the bottom of the tank through a tunnel six feet high and one hundred and fifty feet long. Shortly after the tank had been emptied two hundred citizens of San Francisco with their wives and daughters were invited by the colony to have a ball inside this tank—the first event of the kind in history—and it proved a great success. The tank is eighty-four feet long and thirty feet wide and twenty-five feet high in the clear, and contains a fraction over 500,000 gallons of wine.

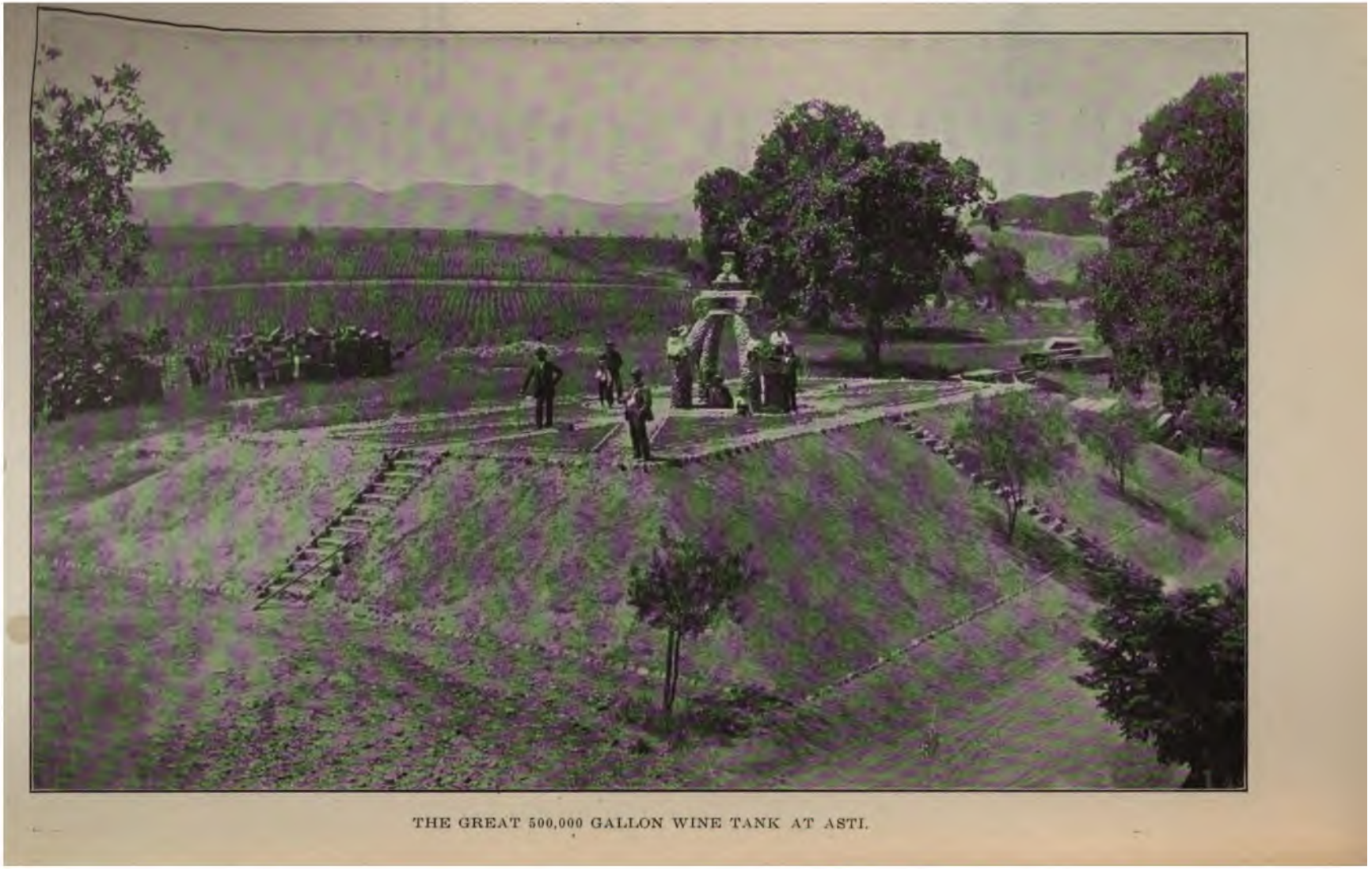
A. Sbarboro, one of the officers of the Italian-Swiss Colony, and also a director of the Promotion Committee, in writing to an inquirer recently, says:

"I beg to call your attention in reference to the surrounding country of Cloverdale, that I have recently visited the Riviera, which is the garden spot of Europe, and that I have looked in vain to find any shrub, flower, tree or plant that is not growing at my villa site, four miles south of Cloverdale. I am sorry that you have been unable to visit the citrus fair at Cloverdale which would have demonstrated to you what we can do in the northern part of Sonoma county. No better showing could have been made at Riverside, Sicily or any other part of the world."

Climate Like the Riviera.

The cultivation of the olive and manufacture of its products, is an interesting industry in Sonoma. It now has over 150,000 trees, mostly in bearing. Olive oil made in Sonoma county took a gold medal at the Paris Exhibition and the first prize at the World's Fair at Chicago.

There is a considerable quicksilver production in Sonoma. One mine near Guerneville has been successfully worked for twenty years, and there are other mines of



THE GREAT 500,000 GALLON WINE TANK AT ASTI.

great promise near the Geyser Spring in course of development.

Profits in Poultry Raising.

One of the most profitable industries in Sonoma county is poultry raising. It yields an annual product of $2,000,000 a year, of which more than one-half is shipped from Petaluma.

Petaluma is an up-to-date town with an important manufacturing interest, a large commerce and many beautiful homes. It is but thirty miles by water from Petaluma to San Francisco. It is surrounded by poultry farms of all sizes from a few hundred hens up to the great ranges of Leghorns with incubator capacity for hatching 3,000 chicks at once. Three thousand dollars is paid out every day in cash for poultry products, and nearly as much butter, cheese, and milk and cream. The advantages of poultry raising in Sonoma county are nearness and reliability of market, quick cash sales, length of the season, abundance of green food and certainty of crops without irrigation.

Concerning the characteristics of the coast counties the Hon. Robert A. Thompson writes recently:

"The combined areas of the coast counties, Marin, Sonoma, Mendocino and Humboldt is equal to many States. They front for over two hundred miles on the ocean, extending inland to the east for one hundred miles. They are sparsely populated and comparatively undeveloped, but even as they are, produce more wealth per capita than any other counties in the State. Generally speaking, this rich and inviting section is known only to those abroad whose attention was directed to its advantages through private sources, or to those who had some special reason to investigate its varied advantages.

General Characteristics of the Upper Coast Counties.

"The coast counties differ in climate, soil, mode of culture, flora and other products, from the interior. The annual rainfall is greater. The season of growth is longer. No irrigation is necessary. There are no droughts. The dry years in the interior are bonanza years on the coast—prices are high and the yield is enormous. Crops are more frequently hurt by too much than too little rain. The red-

wood, the most available of all American forest products, here finds its natural home. A continuous redwood forest stretches along the ocean front of the northwest coast for two hundred miles, a timber belt of unsurpassed magnificence and of incalculable commercial value. Individuals of this family of trees attain a height of three hundred and fifty feet, a diameter of twenty feet and a circumference of sixty feet. Their average diameter is from ten to fifteen feet on the best land.

Great Redwood Forests.

"Eel river and Russian river valleys are the largest in the coast counties. The former runs northward to Humboldt bay. Russian river valley runs southward, fronting on the bay of San Francisco. It lies east of the timber belt of Mendocino and Sonoma counties. It is one hundred and thirty miles long and has an average width of ten miles. Its soil has long been noted for its production of Indian corn, which yields sixty bushels to the acre without irrigation. This fact is mentioned as a witness for the soil and climatic conditions, there being no other section of the state where this crop grows without irrigation. All other cereals, stone, seed and citrus fruits, the grape, the olive and especially berries yield large returns. The foothills have a milder climate than the valleys and are equally productive."

Likeness to the Bay of Naples.

North from San Francisco just across the Golden Gate is Marin county, a picturesque section divided into summer homes for San Franciscans, permanent residences in the many attractive towns, vast tracts of timber, camps in the redwoods and an excellent country for the city sportsman. Marin is small but diversified. Mt. Tamalpais, 2,592 feet high, is its land-mark, seen from far inland. It is a common thing for tourist visitors to San Francisco to liken San Francisco bay to that of Naples and no small part of the comparison is the likeness of the volcanic peak of Tamalpais to that of Vesuvius.

At the Foot of Tamalpais.

San Rafael, the county seat, nestles at the foot of the mountain. Sausalito, a thriving suburban town, is on the bay shore only a half hour's ride from San Francisco,

HOP KILN NEAR FORESTVILLE, SONOMA COUNTY. THE BALED HOPS FROM THIS SECTION OF CALIFORNIA GO TO BREWERIES AND YEAST FACTORIES ALL OVER THE WORLD.

while Belvedere, Mill Valley, Larkspur, and a dozen other little settlements are alluring spots for homes. Crossing to Marin county from the metropolis, the traveler passes Alcatraz and Angel Island government reservations, well fortified and part of the system of defending San Francisco bay.

Where Sir Francis Drake Landed.

Northerly through Marin county run the North Shore and the California Northwestern railways. Both maintain an excellent suburban ferry and train service. Point Reyes, a peninsula and the most westerly point of Marin county, is guarded by a government light-house, and here indented in the rocky shores is Drake's bay, where that bold buccaneer, Sir Francis Drake, landed during one of his sixteenth century voyages.

Crookedest Railway in the World.

On the tip-top of Mt. Tamalpais is located Tamalpais Tavern, reached by the broad-guage railway that is an attractive bit of engineering. The road was constructed in 1896 and is justly considered one of the great scenic lines of the world, excelling in grandeur of landscape features and diversity of bay, island, cities, Pike's Peak, Mt. Cenis or Mt. Lowe. The road starts from Mill Valley and the traveler may make the trip quickly and comfortably. There are 277 curves in a distance of eight and a half miles, during which there is an ascent of about 2,500 feet, nearly a half mile, the steepest grade being about seven per cent. If in following the tortuous course the curves had been continuous, there would be forty-two complete circles made. The longest straight piece of track is but 413 feet.

An Engineering Feat.

About half way up the mountain, on a broad southern shoulder is the "Double Bow Knot," where the track of the railroad parallels itself five times within a distance of about 200 feet, forming as the name denotes an almost perfect double bow knot. The fact of overcoming the grades in such a short distance and by such an ingenious way has caused the "double bow knot" on Mt. Tamalpais to be pronounced one of the greatest of railroad engineering feats.

Attractive Hotel Rafael.

In northern Marin, dairying and poultry raising are flourishing industries, and there are vineyards and fruit farms all about in valley and on hillside slopes. At San Rafael is one of the best tourist hotels in the State—the Hotel Rafael—attractive both summer and winter. In the canyons and great ravines of the county, quail and other game birds are thick, and rare sport can be obtained at almost any time during the open season. The Country Club has leased a large acreage in the northern part of the county, and here the sport is exceptionally fine. The Tamalpais Sportsmen's Club control a large tract in the southern part of the county, and here also there is good shooting and fishing. Deer are also plentiful and some startling records have been made in Marin county in the pursuit of this agile game.

Rendezvous for Yachtsmen.

Yachtmen find the southern coast of Marin especially adapted for their pastime, and at Sausalito, we find the San Francisco and Pacific Yacht Clubs, and at Tiburon, the Corinthians. Well fitted club-houses, where frequent entertainments are given, are located at these places and the sport is both exciting and pleasurable. Frequent cruises are held and races for cups and the championship are a part of the club life. Great expense is gone to by the members in fitting up yachts to enter in the championship races.

At Mill Valley and other places there are gun clubs, and various resorts throughout the county can boast of perfect golf links and tennis courts.

Lake County's Mineral Springs.

Lake county with its mineral springs, its lakes of crystal clearness, its rugged mountain peaks, its fast-flowing streams, the blue sky ever overhead and red soil under foot, with wide-spreading oaks, with towering pines and firs, has gained the name of the "Switzerland of California." It is pre-eminently a resort county, but that means simply that those who live without the county are as anxious as they can be to spend days each year amid its delights. The residents know and love the charm of their mountain slopes and their fertile valleys and few counties

LOGGING IN THE FORESTS OF HUMBOLDT COUNTY.

of the State offer more attractions to the man whose capital is more in brain and brawn than in the size of his bank account. For here nature is in her kindliest mood almost the whole year through

A Typical Foothill Home.

Ideal homes are here, as there are in other upper California foothill counties—picturesque homes, healthful homes, with roomy cabins, roofed with redwood shakes, sided, often, with pine-logs, fenced with timber cut from the mountain sides; homes with fire-places, cavernous and comfortable, veritable inglenooks built of stone, dug from the hillside behind the house, and piled up with clay taken from the soil close at hand. And here are sparkling springs, clear water and plenty of it, brought from the rocky hills near by; water for drinking and irrigating, if need be, although the rainfall through all this region makes irrigation something not to be thought of, except where the home-builder needs a patch of clover or alfalfa to keep his cows in the proper butter-making humor the year round.

Roses Over Shake-roofed Cabins.

Over these shake-roofed cabins—I can see many of them through all this section—climb rosebushes riotously, with blossoms of yellow gold, decking the sides and waving from the roof peaks. About the dooryard are fig trees that bear abundantly, white figs or black figs, of succulent taste and fragrant odor. Here, too, are olives, with deep purpling fruit amid their gray-green foliage. Orange trees are often here, too, and lemons, for oranges thrive frequently as high up and as far north as this, and here, too, are vineyards bearing luscious green-gold clusters of Muscats or rose-red Tokays, deep purple Missions or tiny bunches of golden Chassellas. The barns of such homes trifle with the climate, with open doorways, and sides banked only with hay, impudently daring the weather to do its worst. For the winters here, while often cool and sharp during January and February, are laughable from a climatic standpoint, to anyone who has lived in New England or old England or the Middle United States.

On the Shores of Clear Lake.

Lakeport is a thriving town on the shores of Clear Lake from it run little steamers, carrying travelers to and

from the many attractive resorts. From Bartlett Springs, a famous resort for Californians, automobile stages run across the country into the Sacramento valley, connecting with the west side line of the Southern Pacific.

North and westerly from Lake is Mendocino, a county of wondrous possibilities and comparatively little developed. The main line of the California Northwestern railway penetrates almost to the center of the county at Willits, and is projected northerly into Humboldt, to touch the ocino and its rests. Mendocino is known chiefly for its forests, but as the forests are cleared, agriculture and horticulture follow and in hundreds of valleys throughout the big county are opportunities for home-building and fortune making. Here are vast tracts of redwood timber land; here are many mineral springs, and wide ranges where sheep and cattle thrive all the year.

Ukiah, the county seat, is a wide-awake city with many improvements and many more projected. It takes its name from a redoubtable Indian chief who helped make history in the early days when the Anglo-Saxon was roaming the California wilderness. In Mendocino rises the Eel river, a water course that finds its ocean outlet in Humboldt bay. Humboldt is a county that, like Mendocino, up to the present time has been largely devoted to lumbering, but other industries are following fast, and in the towns of Eureka, Arcata, Ferndale, and Fortuna are growing up communities of many resources.

CHAPTER VI.

COAST COUNTIES SOUTH OF SAN FRANCISCO. Populous Section Immediately About San Francisco, the Metropolis of California—Oakland, Third City in the State—Picturesque and Attractive Section on Eastern Shore of San FranciscoBay—Homes on the Foothills Facing the Golden Gate—Many Educational Institutions—Early Fruit Region—Alameda and Contra Costa Counties—The Santa Clara Valley Paradise—City of San Jose and Recent Progress—Lick Observatory and Mt. Hamilton—San Mateo, Its Suburban Homes and Spreading Oaks—Leland Stanford Junior University and its Work—Santa Cruz by the Sea—Big Basin Redwood Park—Old Monterey—Marvels of Famed Del Monte—Pacific GroveMarine Laboratory, Salmon Fishing, El Carmelo Mission—San Benito and its Undeveloped Resources—Fertile Valleys of Monterey and San Luis Obispo—Sugar Beets and Beet Sugar—Mineral Springs—Paso Robles and Santa Ysabel.

It's O my heart, my heart,
To be out in the sun and sing—
To sing and shout in the fields about,
In the balm and blossoming.
—INA COOLBRITH.

WHILE not directly south of San Francisco, the counties of Alameda and Contra Costa easterly across San Francisco bay, are notable communities to be included in this chapter. Their proximity to the greatest city of California gives them special advantages for residence purposes, for manufacturing, for educational institutions, and for the many suburban features which a great city demands.

The city of Oakland, Alameda's county seat, is the third city of California and a place of rare beauty. Its site is almost ideal, situated on the sloping plain which runs from the Contra Costa hills southerly and westerly to the waters of San Francisco bay. Over this vast plain are spread live oaks, centuries old, shading the streets in many places and affording centering points for many attractive parks and gardens. The city is well built up with homes, owned not only by residents of Oakland, but many San Francisco merchants and professional men have their

COLLEGE OF CHEMISTRY BUILDING, UNIVERSITY OF CALIFORNIA, BERKELEY—AN EXAMPLE OF ELIZABETHAN ARCHITECTURE. NOTE THE LIVEOAK UPON THE RIGHT OF THE PICTURE—ONE OF CALIFORNIA'S CHARACTERISTIC SHADE TREES.

residences here. North of Oakland is Berkeley, the site of the University of California, and south of Oakland the attractive suburb of Alameda.

Oakland's Communication with San Francisco.

Oakland's water-front on San Francisco bay is destined to make it of more than ordinary commercial importance, and the government, recognizing this, has been devoting for some years appropriations to the construction of a tidal canal so that deep water vessels may come close to the city's wharves. Great as are its manufacturing and maritime advantages, it is principally as a home, a resident town, that Oakland has grown to be the third largest community in the State, containing over half the population of the county. It has attracted to itself many thousands of the business men and professional men of San Francisco. They do their business there, but will live only in Oakland. Three ferry systems—soon to be four—connect it with San Francisco. Abundant trains distribute through the main arteries of the city whence 130 miles of street car lines radiate to San Lorenzo, San Leandro, Haywards, Melrose, Fitchburg, Elmhurst, Emeryville, Lorin, Berkeley and Alameda. This intra-urban and the suburban system of rapid transit is now being extended to Richmond and San Jose. All these lines render easy of access most attractive localities for abode. Nearly one thousand new homes have been erected during the past year and they are all upon healthful sites. Building lots and rents are cheap, and houses are sold or rented as fast as they are built. The commutation rates of travel are the lowest in the world.

Rapid Building of New Homes.

While building has been the rule throughout the county, particularly has this been noticeable in the cities of Berkeley, Oakland, and Alameda. Alameda county has a population of 131,000 according to the last census, which gave Oakland city a population of 67,000. The city council, realizing the rapid growth of the city, recently ordered a new census taken, and this gives a ure of 82,974.

The future holds much in store for this county. ady it is the terminus of the Southern Pacific rail-

road and the Santa Fe is building an extension of its line from Point Richmond. It will co-operate with the Realty Syndicate in the management of a new ferry system between Oakland and San Francisco.

ıding the
r Parks.

Steps are being taken in the city of Oakland to bond the city for something over $2,000,000 for the purpose of acquiring parks, boulevards, additional school houses and sites and a new city hall. The Federal government has nearly completed a new post-office building for use of the city at a cost of $200,000. The Carnegie library has also been completed during the past year. Mr. Carnegie's donation for that building was $50,000, and for the site the citizens subscribed $20,000.

One of the important projects undertaken here during the past year, and one which will not be completed for some time, is the building of a tunnel to connect Alameda and Contra Costa counties. A range of hills now separates the two counties and has served as a hindrance to travel between the counties. Both counties have sought to have the tunnel built, and, in fact, it was started many years ago by private capital, which proved inadequate for the enterprise. Within the past three years the Merchants Exchange of Oakland undertook the task and though a special act of the legislature was required to authorize the expenditure of the money, it was accomplished, and the necessary appropriations made by both counties. The estimated expense of constructing the tunnel is very nearly $30,000.

g Plant of
he Pacific
Steel
Company.

One of the latest corporations to appreciate the advantages of the Oakland side of the bay as a manufacturing center is the Pacific Steel Company, which is already erecting a big plant on the twenty-five acres of land it recently acquired in East Oakland.

In the hills east of Oakland is located Mills College, which has been designated the "Wellesley of the Pacific Coast," as it is one of the best-known and most efficient colleges for women in the United States. Throughout the county are scattered a number of notable secondary schools, nearly all of them leading their students to the University

The University of California.

of California at Berkeley. The characteristics of this institution are elsewhere noted. The university stands to-day among the recognized institutions of learning in the United States and during the last years of the administration of its recently retired president, Martin Kellogg, and the few years of the aggressive work of the present president, Benjamin Ide Wheeler, has moved rapidly to a place of acknowledged high standing among the world's best universities. Its aim is not only for the education of the young men and young women of California, but its well-managed university extension system, its farmers' institutes, its lecturers in all branches, that go out among the people telling of the latest advances of science in agriculture, horticulture and mining, stock-raising and dairying and other lines of practical learning, have made it a power for great good in the development of the fast-growing State. Tuition here is absolutely free to all residents of the State, and the student without wealth may here find numerous ways of earning his own way through the four years of his college term.

Education of the Unfortunate.

Here at Berkeley also is the State Institute for the Deaf, Dumb and Blind, which, under the guidance of Professor Warring Wilkinson, an acknowledged expert in this line for training the unfortunate, has for a quarter of a century stood for all that is best in this peculiar class of educational attainment. Close by, in Oakland, is the Home for Adult Blind, an admirable institution maintained by the State.

Concerning Oakland's climate, and the record is practically true of all Alameda county, statistics are rather instructive than interesting, but Oakland's equable climate is quite clearly demonstrated from the daily records noted at Chabot Observatory. Since January, 1876, (beginning of the recorded observations), the annual average temperature has been 50°. The average temperature of its coldest weather has been 48°; that of its warmest, 62°; and its average humidity, 80°. The average temperature of 1902 was 50°; the temperature of the warmest day, 70°; of the coolest 39°; the greatest variation in twenty-four

THE HEARST MINING BUILDING, A MEMORIAL TO SENATOR GEORGE HEARST, UNIVERSITY OF CALIFORNIA, ERECTED BY MRS. PHEBE A. HEARST.

hours 33°; the least 6°; days in which rain fell, 83; days of frost, 22; number of clear and fair days, 268. The greatest monthly variation of temperature was in October, viz., 43°; the least in January, 26°. The average daily range of temperature for the year was 17.33°. Rainfall in inches during the year was 23.92. Separating the period into seasons corresponding with those in the East, the mean temperature of the spring was 58.85°; of the summer, 59.83; of the autumn, 54.87; of the winter, 49.27. The difference between the warmest and coldest months of the spring was 6.65°; of the summer, 2.9°; of the autumn, 11.5° and of winter 5,7°. Oakland's Weather.

Contra Costa, eastward and over the hills from Alameda is noted for its small fruit farms over in the Alhambra valley back of Martinez, the county seat; for its poultry ranches, for its big grain store-houses on Carquinez straits where the deep water ships come direct to the wharves to secure their cargoes. The manufacturers in this section are the Sacramento River Packers Association, Garratt's Foundry, Copper King Smelting Works, the Peyton Chemical Works, California and Hawaiian Sugar Refinery, and Selby's Gold Smelting Works, where gold quartz from all over the State is brought to be turned out in the form of bullion, the Union and National Refining Companies, which have been built within the past eighteen months, and the powder mills of the California and Giant Companies, located near Pinole, but two or three miles from Selby's. On Point Pinole, which juts out into the San Pablo bay, is located the works of the International Explosives Company. Other lesser industries are established along the shore between Point Pinole and Point Richmond. Three years ago the site on which the town of Richmond has been built, was a farm. To-day it has a population of more than 2,000. The town is the terminal of the Santa Fe road, which has its shops located there. The Standard Oil Company has made it the terminal of its big pipe line from the Southern oil fields. A ferry service connects the point with San Francisco. Contra Costa's Fruit Farms. Many Industries.

During the past year the county court house has nearly been completed. It will cost over $200,000, and is one of the finest county buildings in the State. A new high school has been established in Martinez and a three story school has been built at the same place.

Next south of San Francisco is the county of San Mateo, a suburban region of sea-coast, mountain and valley, dotted with summer homes, picturesque orchards and vineyards, and along the overland coast line of the Southern Pacific Company are a number of attractive towns, of which Redwood, San Mateo, Menlo Park, Belmont, are the chief.

he County
at of San
o County.

Redwood, the county seat, is an incorporated town of about 2,000 people, whose property is assessed at over $618,000. It is a manufacturing place of considerable and increasing importance, owing to its excellent location between a railroad and navigable water channel. Its tributary area is about one hundred and eighty square miles, extending by reason of numerous roads far into the forests and along an extensive coast region.

The largest single industry of the town is that of tanning hides, and the excellence of the leather is known in every market. The principal tanning company employs about one hundred and seventy-five men and pays out in wages over $100,000 a year.

Artesian Water.

The water supply of the place, owned by the city, comes, as at Stockton, Hollister and some other towns, from artesian wells, and in regard to cost, quality and quantity gives satisfaction to the community. Power and light are furnished by a company whose headquarters are at San Jose, and which supplies a large number of towns around the bay. This power is chiefly for pumping water to irrigate vegetable fields and for many other domestic purposes is better than are steam or gasoline engines, so it is rapidly coming into use on many farms in this region, as well as in the towns. The electric light plant is owned by the city.

The schools of Redwood are the pride of the commu-

PRESIDENT ROOSEVELT DELIVERING THE COMMENCEMENT DAY ADDRESS IN THE GREAT HEARST AMPHITHEATER AT THE UNIVERSITY OF CALIFORNIA, MAY 14, 1903.

nity, which spent $40,000 on the building which holds the grammar and high school departments, but they are now planning for a separate high school building. There are also excellent private schools within easy reach, and Stanford University is only five miles away.

b Groves Natural Oaks.

South of Redwood the traveler passes through superb groves of natural oaks, through Fair Oaks, with its excellent homes, club house and golf links, past the Flood mansion, now the property of the University of California, and past other fine country homes to Menlo Park, peopled by some of California's wealthiest and best-known residents. To the east of the village is St. Patrick's Seminary for the education of priests, a magnificent brick structure with ample surroundings, on which a million dollars has already been spent. At Menlo Park is also the Hoitt school for boys. At the northern end of the county around San Bruno are famous dairies which supply San Francisco's markets, and here also running close into San Francisco are large tracts given up to the raising of vegetables.

At South San Francisco—so named, but in San Mateo county—is the extensive manufacturing plant of the Western Meat Company. Here also are manufactories of paints and oils and other industries that naturally find their home just without the boundary of a large city. At San Mateo is St. Matthew's Hall, an Episcopalian school for boys, widely known for its military features as well as for the high moral standard set for its students.

iports at lingame.

Near San Mateo is Burlingame, the "Tuxedo" of California, where many millionaires of the West have made their homes and have settled down to enjoy the luxury that wealth affords, amusing themselves with cross-country hunts, automobile excursions, golf, tennis, house-parties, and the usual round of sport that country life in California makes possible. Around here are large places devoted to the growing of cut flowers, not only for the San Francisco market, but for Portland, Seattle and Salt Lake, shipping this fragrant freight daily to far away points. One place here has sold as high as $40,000

worth of cut flowers in the San Francisco market alone in a single season, and here in one ten acre tract is a wondrous garden of violets—violets of all sizes and shapes and varieties, from the tiny pale blue Marie-Louise to the monster California, that perfumeless purple beauty whose wondrous elegance has won fame among violet lovers all the world over.

All sorts of industries thrive along the bay shore of San Mateo, from frog and terrapin raising to oysters and poultry. On the marsh near Redwood an extensive tract is given up to the production of salt.

Features of Stanford University.

Just south of the boundary line of San Mateo in Santa Clara county at Palo Alto is the Leland Stanford Junior University, that institution that has, in recent years, drawn to it the eyes of all the world of learning. Here has grown up, probably, the richest university in the world, for its present endowment, as elsewhere noted, aggregates fully $30,000,000. Under the guiding hand of the late Senator Leland Stanford, and of Mrs. Stanford, and of its first and present president, David Starr Jordan, the university has grown rapidly, until both in number of students and in character of the curriculum, the institution stands well to the forefront among its college rivals both east, west and abroad.

Santa Clara's Attractions.

This university is only one of the notable features of that small empire, Santa Clara county. A glance at the map shows the county's sheltered situation with the high pine-clad hills of the Coast Range shielding it from the sea winds and the long spur of mountains of the Mount Hamilton range protecting it from the warm winds of the eastward. Through the valley north and south runs the coast line of the Southern Pacific, giving the residents of the valley practically suburban traffic with San Francisco.

San Jose is notable among cities of the world, situated as it is in the center of a fertile valley, gathering to itself a population noted for culture and for learning, attracted hither by the climate, by the famous schools, as well as alluring scientists in special lines to the big Lick Observatory on Mt. Hamilton.

One Hundred Million Pounds of Prunes.

This Santa Clara valley, through which Governor Gaspar de Portola marched with his troops way north in 1769 when seeking San Francisco bay, is about sixty miles long and averages twenty miles in width. In the valley lands and far up into the hills are orchards—orchards producing all kinds of fruit, but chiefly prunes. In the year 1901 over 100,000,000 pounds of prunes were shipped out of California to the markets of the Eastern States and Europe and the bulk of this product came from the Santa Clara valley. A conservative estimate of the Santa Clara valley prune crop for 1902 is 80,000,000 pounds, valued at over $2,100,000. The crop of apricots brought over $560,000, and the total receipts from exported dried fruit product of the year was something like $3,000,000. In canned fruits, the county is not less notable, the estimated receipts for the crop of 1902 footing up to over $2,400,000, making a grand total of receipts for dried, canned and fresh fruit shipped for 1902 not far from $7,000,000.

Blooming Orchards.

It is during the blossoming season that the valley presents its greatest charms whether as a panorama or scene in detail. Then the white blossoms cover it almost like a mantel of snow. It is a hopeless task to convey an impression of the beauty of this scene to one whose eyes have not beheld it. Six million fruit trees are in bloom simultaneously. Of these four millions are prune trees and are in bloom in the same time, while with them peach, apricot, pear and cherry, are mingled to give color tints to the scene, for the deep pink of peach blossom adds here and there a patch of color to relieve the snowy whiteness of the general tone. Mile after mile these masses of blossoms stretch before the eye until they blend with the blue of the horizon.

Blossom Season of Santa Clara Valley.

The blossom season is a long and delightful one, both to the residents and the thousands of visitors who seek the valley to enjoy its climate. The almonds are the first to show their bloom, beginning usually the last week in January, and in a few weeks these are followed by the peach, the cherry, the pear, the apricot, and then

THE FAMOUS STAMBOUL, A PRODUCT OF SAN MATEO COUNTY, CALIFORNIA.

the prunes, the latter about the middle of March or early in April, and finally by the apples.

It is no wonder, comments a recent writer, the people of Santa Clara annually celebrate the blooming of the fruit trees with a "Blossom Festival," and that visitors come from great distances to join in the celebration or witness the unique spectacle. Unique it is indeed, for no where else in the universe can such a sight be witnessed as this mountain-girt valley of fruit trees during the blossom season. The Japanese celebrate the blooming of the cherry trees, but all the cherry trees in Japan are but as a satellite to the sun compared with the blooming orchard of the Santa Clara.

Nature's Rioting in Midwinter.

At all seasons of the year flowers may be seen in profusion about the homes. The ever-blooming roses, hedge rows of callas in bloom, the many colored flowers of geranium, the beautiful, long-stemmed California violets, and many other flowers may be seen during the entire winter. But it is in April and May, just following the rioting of Nature in the blooming orchards that flowers are seen in an almost incredible abundance. Huge rose bushes climb over houses and fences and far up among the limbs of great trees, covering them with a wealth of color.

Paradise of Deciduous Fruits.

In Santa Clara county are about 4,000,000 prune trees, 600,000 apricot trees, 500,000 peach, 1,500 cherry, 10,000 olive, 125,000 pear, 20,000 almond, 10,000 walnut, 3,000 fig, 25,000 apple, and large numbers of orange, lemon, nectarine and other kinds of fruit and nut trees not grown on so large a scale. Oranges may be profitably grown here, but the climate and soil are better adapted to deciduous fruits.

Conditions of the soil and climate render this one of the best prune-growing districts in the world. For this reason prune culture in the United States has found here its greatest development. Three-fifths of all the prunes produced on this continent are grown in this valley whose trees yield upwards of a hundred million pounds of cured fruit annually. The matter of superior quality accounts

for the concentration of the industry in this valley. Prunes and other fruits are dried in the sun and not by artificial heat, as is necessary in less sunny climes.

Output of Dried and Canned Fruits.

There are dried annually about three million pounds each of peaches and apricots, and pears and apples, to a total of a million pounds more. Seven canneries pack more than twelve million cans of fruit annually, as well as great quantities of tomatoes and other vegetables, while all varieties of fruits are shipped fresh to the extent of twenty million pounds annually.

Here also are many acres of small fruits and berries, strawberries yielding constantly from April to December. Many acres are devoted to the growing of wheat and barley, which give large yields of the finest of grain. Only the superior value of the fruit crop prevents the valley from being a continuous field of grain. Much grain is cut for hay and there is also considerable meadow land devoted to grass hay of about the same market value. Many acres, too, are devoted to the growing of vegetables and flower seeds. This is an industry highly developed, in this valley. Last year the product of seed exceeded five hundred tons, more than half of which were onion seeds, the remainder being of many varieties. Seedsmen all over the United States buy the Santa Clara seeds and know they are putting on the market the best that can be grown. The assessment roll shows that there were in 1901 13,020 acres in wheat, 13,200 in barley, 30,900 in hay, 397 in potatoes, 240 in blackberries, 159 in raspberries, 261 in strawberries and several thousand in seeds. The total exports annually are enormous.

Families of Fruit Pickers.

The orchard feature of Santa Clara valley combines to form in the fruit picking season a novel picture, for from San Jose and other cities and towns in the country go forth men, women and children to harvest the crops of prunes, apricots, grapes and other products. The labor is such that all may find employment and there is a steady demand for labor of this character at good wages. Often entire families camp in an orchard; they are given all the fruit they care to eat and here they camp enjoying a sum-

mer outing as well as making a snug sum for various uses on returning to their homes. This valley and all California needs laborers of this character. Throughout the State within the past years by means of committees of improvement and development associations and the central committee under whose auspices this volume is published, a determined effort has been put forth to bring to the State labor of this character. The Chinese and Japanese are here in large numbers, but their labor is not as satisfactory to the good citizen as white labor, and thrifty men and women here may find plenty of healthful work to do, in the fruit harvesting season especially.

Historic Mission Santa Clara.

Between San Jose and the Leland Stanford Junior University, is the old town of Santa Clara and the Santa Clara Mission and College, the oldest institution of learning on the Pacific Coast. The Mission was founded in 1777. Here, growing in the old Mission garden, may be seen the olives and palm trees planted by the faithful religious workers of long ago. From the Mission to San Jose are ancient willows also planted by the padres to afford them shade in walking from Santa Clara to the hacienda of San Jose. The Mission is one of the best preserved of the long line of missions, with the original frescoes and paintings as they were over a century ago.

Not far from Mission Santa Clara towards San Jose is the University of the Pacific, a Methodist institution which ranks high for its moral and intellectual training.

San Jose and the Lick Observatory.

San Jose is a model city with electric cars and electric lights. Its chief hotel, the Vendome, is one of the finest in the West, and draws to it a steady patronage of both tourists and residents. From the Vendome stages start for the Lick Observatory twenty-eight miles away on the summit of Mount Hamilton at an altitude of 4440 feet. It was here that the trustees of James Lick, an eccentric California millionaire, erected at a cost of $700,000 some years ago the then largest telescope in the world. Its lens, made by Alvan Clarke, is three feet in diameter, now surpassed only by the great Yerkes' glass at Chicago. Up

THE MEMORIAL CHURCH, STANFORD UNIVERSITY.

here on the mountain a staff of astronomers under the direction of the University of California (for the Lick Observatory is an allied college of the university), spend their nights scanning the heavens, and to their zeal and watchfulness science of recent years is indebted for many discoveries of double stars, comets and other celestial phenomena. The present director (1903) is Professor W. W. Campbell, and with him are associated men whose work is known to all astronomers.

The New Almaden Quicksilver Mines.

In the lower part of the county are the long-famed New Almaden quicksilver mines, the largest quicksilver mines in the United States and the third largest producer in the world. Down around the town of Gilroy are fertile plains given up to dairying, beet sugar and seed growing and over at San Fellpe not far away from Gilroy, cigar tobacco has been raised successfully for some years.

California has several normal schools, and one of the best of them is in San Jose with over six hundred pupils and a large corps of efficient teachers.

Features of San Jose.

San Jose has a complete system of electric street cars, two systems of electric light and gas, fine police and fire departments, good sewers and other appointments of a modern city. The purest of water is piped in from the mountains. There are three beautiful parks, the St. James, the Market-street Plaza, and the Washington Square, in which are the State Normal School, the High School, and the new Carnegie Public Library. St. James Park is in the heart of the city, fronted on the west by the Court House and Hall of Records and St. James Hotel, on the north by the St. Claire Club and on the east and south by residences. On the Market-street plaza stands a fine City Hall, and near it are the imposing stone postoffice and St. Joseph's Cathedral.

Santa Cruz County.

South and westerly of Santa Clara county is Santa Cruz, as attractive a section as there is in California, a county of mountains and valley, of redwood forests, fruitful orchards, long stretches of beach with alluring surf for bathers and all sorts of opportunities for boating and yachting upon Monterey bay and its inlets.

Santa Cruz county is one of the famous summer and winter resorts of the State and many wealthy residents of San Francisco have here their summer homes. The big trees of the Santa Cruz mountains are among the State's wonders in the line of natural attractions and the new Sempervirens park, commonly known as the Big Basin region, is destined in time to be a spot through which tourists and all lovers of Nature will rove and revel.

Location of the City of Santa Cruz.

The principal city, Santa Cruz, stands just within the northern headland of the bay of Monterey, looking southward. From the sea-line the town spreads away over bluff and terrace and cliff, until its suburbs merge into the rounded curves of the foothills, and these again lift themselves to the shoulders of the Santa Cruz mountains, which attain a height of from two thousand to three thousand, eight hundred feet. This range forms a part of the system of Coast mountains and its trend, following irregularly that of the coast, holds the city of the Holy Cross in a natural amphitheater, protecting it from the northwest trade winds. Santa Cruz, with its southerly aspect and its location, snugly tucked away behind the headland, and within the arms of the range, enjoys sunshine and an exemption from fogs. Just around the northern headland lies spread out the bay of Monterey, bordered at Santa Cruz by a broad, curving beach, a gently sloping bed of fine sand, about one hundred yards in width and a half mile in length. The surf bathing here is ideal in its delight, and many enjoy it the whole year round.

Climate of Santa Cruz.

The mercury's range during the year is from 28° above to 88° above Fahrenheit. The lower temperature is seldom touched, and very seldom is the higher figure exceeded even for a few hours. The mean annual temperature for a term of years was 59.5°. The variation between the three warmest months, July, August and September and the three coldest, December, January and February, is shown by the averages, which are 62° above for the summer and 52° above for the winter, a difference of but 10°.

The average rainfall at Santa Cruz, taken from a record of thirty-three consecutive years is 25.26 inches, showing that this is a well-watered district. The rainfall is so distributed that there is never a failure of crops for lack of moisture.

The story of the climate in Santa Cruz is written in flowers rather than figures, and the soberest statistician rises to enthusiasm when he tells of winter gardens where magnolias, camellias, and roses bloom in the open air, and the luxuriant field and forest blooms which, every month in the year, adorn the face of town and country.

Attractions of Santa Cruz.

Santa Cruz possesses advantages equal to those of any city of eight thousand population in the country and superior to those of many places of like size. It supports a large and well-equipped library; owns its water works, a system that brings into every house and garden, without charge, for domestic purposes an abundant supply of the purest of mountain water; has a complete system of sewers approved by the late Colonel Waring; maintains a street arc lighting plant, a public park and a capital fire department. The streets are in good condition, the principal ones paved with the native bituminous rock, and three miles of the other streets are macadamized. The cliff drive, six miles in length, was built by the city which also owns a salt water pumping plant for street sprinkling of local invention and construction. Santa Cruz acquired by bequest of Jose Vicente de Laveaga, an estate of five hundred and sixty-five acres of hill, vale, grove and canyon, commanding some of the finest views in the county.

Cheap Transportation.

Transportation and shipping facilities by two lines of railway and by ocean steamers and sailing vessels are good, and are in process of expansion. The harbor is a safe one and susceptible of great improvement. Piers, wharves and water-front facilities of much greater capacity than those existing await the judicious investor, whose study of the resources of the county and of the needs of new Oriental markets will assure him of the profitable results of such enterprise.

THIS SHOWS A PRUNE ORCHARD IN BLOOM NEAR SAN JOSE, IN THE SANTA CLARA VALLEY. IN THIS VALLEY THERE ARE GROWING MORE THAN FOUR MILLION PRUNE TREES, AND THE SIGHT WHEN ALL ARE IN BLOOM IN LATE MARCH OR EARLY APRIL IS A PICTURE WORTH GOING A LONG WAY TO SEE.

The Big Basin.

The Big Basin is a large tract of virgin forest, lying in the mountains on the northern boundary of the county, and holding many specimens of even greater size than those just mentioned. This vast forest holds the best specimens of every tree, shrub and flower, native to Santa Cruz county, is a cover for wild game of many sorts, and as a state park will be kept sacred from the axe of the lumberman.

Products of the County.

Where the lumberman and the logger have left mountain sides desolate and stump-studded, the farmer, the wine-maker and the fruit grower have possessed the land. The specialty of Santa Cruz is infinite variety. In lumber products she ranks third is the State. Her butter, cheese and cream might well win her a place in the dairy districts. Hay, grain, potatoes and the whole range of cereals and vegetables give enormous yields per acre, and oranges are raised for home consumption, and the cultivation of the lemon for market is successful and profitable. From the summits of the range more than two thousand feet above the sea, down to the wide and fruitful valleys along the bay coast grows and flourish a range of most delicious fruits which few points may successfully rival. Prunes, pears, apricots, lemons, peaches, cherries, Japan and native plums, figs, walnuts, persimmons, olives and nectarines thrive, but the crop in which the largest profit is found is that of apples. The quality and size are astonishing, and yield per acre quite as much so. From Bellefleurs in September to Newton Pippins in December the supply is steady and the work of harvesting and shipping drives the orchardist merrily. From two depots in the county, in a recent season, there were shipped to Eastern points exclusive of other sales, 128,596 boxes of apples, weighing 6,429,809 pounds. The market for Santa Cruz county apples now extends to England and the continent, Germany being a large buyer, and the acreage in bearing supplies not less than 200,000 boxes annually. The especial home of the apple, as well as of the strawberry in this county, is the fertile valley of Pajaro.

The Apple Crop.

On the mountain slopes vines flourish, and the wines

of the county have won special fame in competitions in Eastern cities as well as in Europe. Vineyards dot the hillsides back of Santa Cruz and far into the interior. The Ben Lomond wines of Santa Cruz won medals at the Chicago Exhibition as well as at Bordeaux and Paris. Table grapes also thrive luxuriantly and find ready markets close at hand.

Sugar beet raising, dairying, market gardening, small fruits including strawberries, blackberries, and loganberries, and poultry raising are also among the attractive industries, while the deep-sea fishing of Monterey bay forms not only an attraction for sportsmen, but is of great commercial value.

Old Capital of California.

Bordering the shore of Monterey bay, below Santa Cruz county, is the County of Monterey, comprising 3,450 square miles, and directly south of Monterey on the coast is the small principality of San Luis Obispo. These counties are about equal in area and of similar characteristics, although residents of each claim peculiar qualities of air, soil and climate which make their homeland the best.

Monterey is best known without the State for two things; one, old Monterey, the former capital of California, on Monterey bay, where Commodore Sloat raised the stars and stripes over half a century ago; the other, the Hotel del Monte, a famed resort for tourists, who find here a garden spot the year round with all the luxuries that the highest civilization can demand.

Del Monte Where Society Gathers.

Del Monte is one of the central gathering points for fashionable Californians. Here in the summer time are held golf and tennis tournaments, polo matches, swimming contests, and the many other forms of sport in which society delights. Under and among the spreading oaks are wonderful gardens, while flowers bloom luxuriantly and as freely in December as in June. Salmon fishing in Monterey bay is great sport and Del Monte is the headquarters for anglers who pride themselves in making records in landing these monster food fish.

Around Del Monte and Monterey are many picturesque drives, one being the well-known seventeen-mile drive to the old Carmel mission on Carmel bay, where is fast growing up a small city of attractive homes.

ific Coast auquans.

Pacific Grove between Monterey and Carmel is an old established colony, built up originally by members of the Methodist denomination. This is a famous summer seaside resort, the attractive forests and sea-bathing drawing many people here for quiet recreation. Here is held annually the convention of the Pacific Coast Chatauquans, and other organizations find this an agreeable spot to assemble at any time of the year. Near Monterey has recently been established a government military post, where are quartered the year round between one and two thousand men.

linas and undings.

The county seat of Monterey is Salinas, a thriving city on the Salinas river, not far from the coast. The city is in the upper end of the great Salinas valley. It is bounded on the west by the Santa Lucia mountains and on the east by the Gabilan range, being from five to twenty-five miles wide, and is traversed from north to south by the Salinas river. Through this valley runs the coast line of the Southern Pacific, the picturesque route to the East. About five miles west of Soledad, on the east slope of the Santa Lucia mountains, are the Paraiso Hot Springs, containing arsenic, sulphur and soda springs. Salinas has a population of over 4,000 and is a place of great business enterprise, containing handsome residences and fine business blocks. The Southern Pacific has just finished here the construction of an oil tank with a capacity of over 1,000,000 gallons, to supply engines with oil for fuel. About four miles from Salinas is the Spreckels Sugar Factory, the largest in the world with a capacity of about four hundred and fifty tons of raw or refined sugar per day. The 3,000 tons of beets consumed by the factory on each running day furnish profitable employment for hundreds of farmers.

Mission Antonio.

Down in the southern part of Monterey county is Mission San Antonio, another one of those historic monuments

THE PEAR GROWS IN PROFUSION—SCENE IN A SANTA CLARA VALLEY PEAR ORCHARD IN APRIL.

to the self-sacrificing of the Franciscan fathers who planted here these many outposts of civilization and religion. San Antonio is one of the most attractive missions and its location at this point tells as all other missions tell of the rare judgment of the founders concerning excellence of climate and soil in this region.

Few counties of the State show more steady advances than San Luis Obispo, the county that takes its name from the mission that was established here in 1772.

California Polytechnic School.

At San Luis Obispo has been established the California Polytechnic School, a State institution where scientific agriculture as well as the trades are to be taught. The school is located on a tract of 280 acres near the city and it promises to be one of the notable institutions of a State already famed for its educational opportunities.

The city of San Luis Obispo is a thriving one, with its harbor at Port Harford, just over the hills to the westward, and surrounded on all sides by fertile valleys peopled with enterprising settlers.

Paso Robles and Santa Ysabel Hot Springs.

Near the city is the Hotel Ramona, and northerly, on the coast line of railway, is El Paso de Robles—The Pass of Oaks—noted for its hot springs; and beyond is Santa Ysabel, destined also before many years to be widely known as one of the spots set apart for the "healing of the nations." At Paso Robles is one of the largest tourist hotels in the State, and each year its charms of surroundings and of climate are becoming better known, drawing there hundreds who seek rest and health.

Concerning the county characteristics a recent writer says:

San Luis Obispo Past and Present.

"Chiefly pastoral, even as the Spanish made it, San Luis Obispo was long kept by the pioneer Americans. Wonderfully rich lands for cereal crops there were as men discovered, but thousands of acres on great Spanish grants, since subdivided, sold and farmed, were long used for pasturage. For a quarter of a century after the Americans came to these great grants, some thirty-five in number, and ranging from two or three thousand acres to

thirty or forty thousand acres, prevented modern progress, just as they did in Los Angeles. Beautiful ranches with most musical names,—Asuncion, Huasna, Nipomo, Paso de Robles, Santa Ysabel—they collectively held nearly half a million acres from full use. Now that they are sold to Americans, subdivided, improved, until there are really no large ranches left, except Piedras Blancas, the property of Mrs. Hearst, away up in the northwestern corner of the county, and Santa Margarita at the head of the Salinas. There is plenty of land for sale, land of all sorts, at all prices, in all kinds of situations, but, fortunately for San Luis Obispo, speculative period based on the great Spanish ranches has come and gone, as it did in Los Angeles years ago.

Breaking up the Big Ranches.

"Gone are the vaqueros, with their ringing spurs, sweeping by moonlight down the canyons, gone are the merry sheep-shearers galloping from ranch to ranch, or spending their summer's hard earnings on a spree in town. Gone are the shambling, half-crazy shepherds that one used to find in the hills, or on the plains shaking their forlorn heads, screaming wildly at their collies or huddled over their campfires in the hollows at dusk, in the midst of fretful sheep. Instead of all this there has come to San Luis Obispo, slowly, surely, as all worthwhile things come, knowledge of her unique position as a great, growing, rich and deservedly famous dairy county. Hardly elsewhere in America has there been a more uniform record of success as among the dairymen, both landowners and renters of the San Luis coast."

Famous Dairy Region.

The average season's rainfall has been at the city of San Luis Obispo during the past thirty-two years, twenty-one inches. Grain, beans, seeds, live stock of all kinds, butter, cheese, oranges, lemons, apples, pears, peaches, prunes, apricots, olives, grapes, berries and vegetables—in fact all fruits of the temperate and semi-tropical zones—ocean fish and bivalves, building stone, bituminous rock, asphaltum, chrome, manganese, quicksilver, copper, gold and springs of great medicinal value are among the productions of San Luis Obispo county.

Picturesque Coast Towns.

Transportation facilities are unexcelled. The great transcontinental highway of the Southern Pacific between San Francisco and Los Angeles crosses the county from north to south through the cities of San Miguel, Paso Robles, Templeton, Santa Margarita, San Luis Obispo, Edna, Oceano, and the Oso Flaco section. The Pacific Coast Railway comes from the south northward through Nipomo, Los Berros, Arroyo Grande, Edna and San Luis Obispo, terminating at Port Harford on the Pacific ocean, affording an ocean outlet as well as a rail outlet to the products of the county. The Pacific Coast Steamship Company's vessels touch at San Simeon, Cayucos and Port Harford. Numerous other good landing points are available for independent lines as competition may make desirable. A third railroad, the Midland Pacific, from the San Joaquin Valley to tide-water at Port Harford is now in course of construction. Schools are noted for their excellence, the substantial support given them and their thorough equipment. Graduates of the San Luis Obispo high school are accredited to the universities of the State.

A San Luis Obispo resident writes:

"A home in San Luis Obispo county can be bought at a lower price (climate and fertility of soil considered), than elsewhere in California. This has been an unknown country, and consequently, land values are lower to-day than they were ten years ago in the better known parts of the State. The coast road places this county on the main line of travel and the first persons to take advantage of the new conditions will secure homes that are not only productive farms but that will double in value as the country becomes more thickly settled."

In San Benito County.

Easterly from Monterey made up of mountains and valleys of the Coast Range is San Benito county, a section rich in minerals and fast coming to the fore as a producer of fruits of all sorts as well as of hay and grain, and oil. The county seat is Hollister reached by a branch of the Southern Pacific coast line, connecting at Gilroy. A rich product of the county is quicksilver. The New Idria quicksilver mine holds immense deposits of cinnabar.

CHAPTER VII.

MOUNTAIN COUNTIES. Renewed Gold Mining of Recent Years—Old Mines Being Worked and New Ones Found and Prospectors Busy—The Mother Lode a Treasure Bed—Riches of Plumas, Mono and Inyo Counties—Cattle Ranges of Modoc and Lassen—Among the Lava Beds—Making Paper From Pine Trees—Where Sportsmen May Revel—A Mountain Region for Hunting and Fishing a Hundred Times the Size of the Adirondacks—In Owens Valley—Marble, Moss Agates, Salt, and Borax—Death Valley and Its Nitrates—A Region of Arabian Nights Romance.

Bright land of summery days and golden peace,
Of vine and flower and ever rich increase;
Of veined hills and mountains treasure stored,
Where miser-gnomes in secret watch their hoard.

—JOHN R. RIDGE.

PROBABLY no section of California offers greater opportunities to the man of limited means than that region of the State included in this chapter, the mountain counties. Under this designation are included the counties of Modoc, Lassen, Plumas, Sierra, Alpine, Mono, and Inyo, listed in geographical order from north to south. All of these counties are in the Sierra Nevada region; some, like Alpine, almost entirely mountainous, high among the ridges of the Sierra Nevada, but others like Lassen and Plumas containing long stretches of valley and meadow unsurpassed for grazing and cattle raising. Others, still, like Mono and Inyo, are mineral in character, although Inyo with its fertile Owens river valley has been coming to the front of recent years as an agricultural region of remarkable possibilities. Up in these mountain counties among the pines are all conditions for the rugged health ever a tribute of the mountaineer. Here are snow-crowned summits, clear lakes of almost unfathomable depths and wonderful views that make those of famed Switzerland like toys in comparison.

Characteristics of Alpine.

Alpine county is smallest in area of the mountain counties, and was so named by the pioneer residents because of its alpine features. Its elevation ranges from five thousand to eleven thousand feet above sea level. Its present population does not exceed one thousand. There is room here with the resources for ten times that number. The citizens rank high for industry and intelligence and are proud of the productive possibilities of their region. The county is abundantly supplied with timber and water, and there are rich minerals in all sections. Apples, pears, plums, peaches, and other hardy fruits and vegetables do marvelously well in the mountain valleys. And these are characteristics of all of the Sierra valley region.

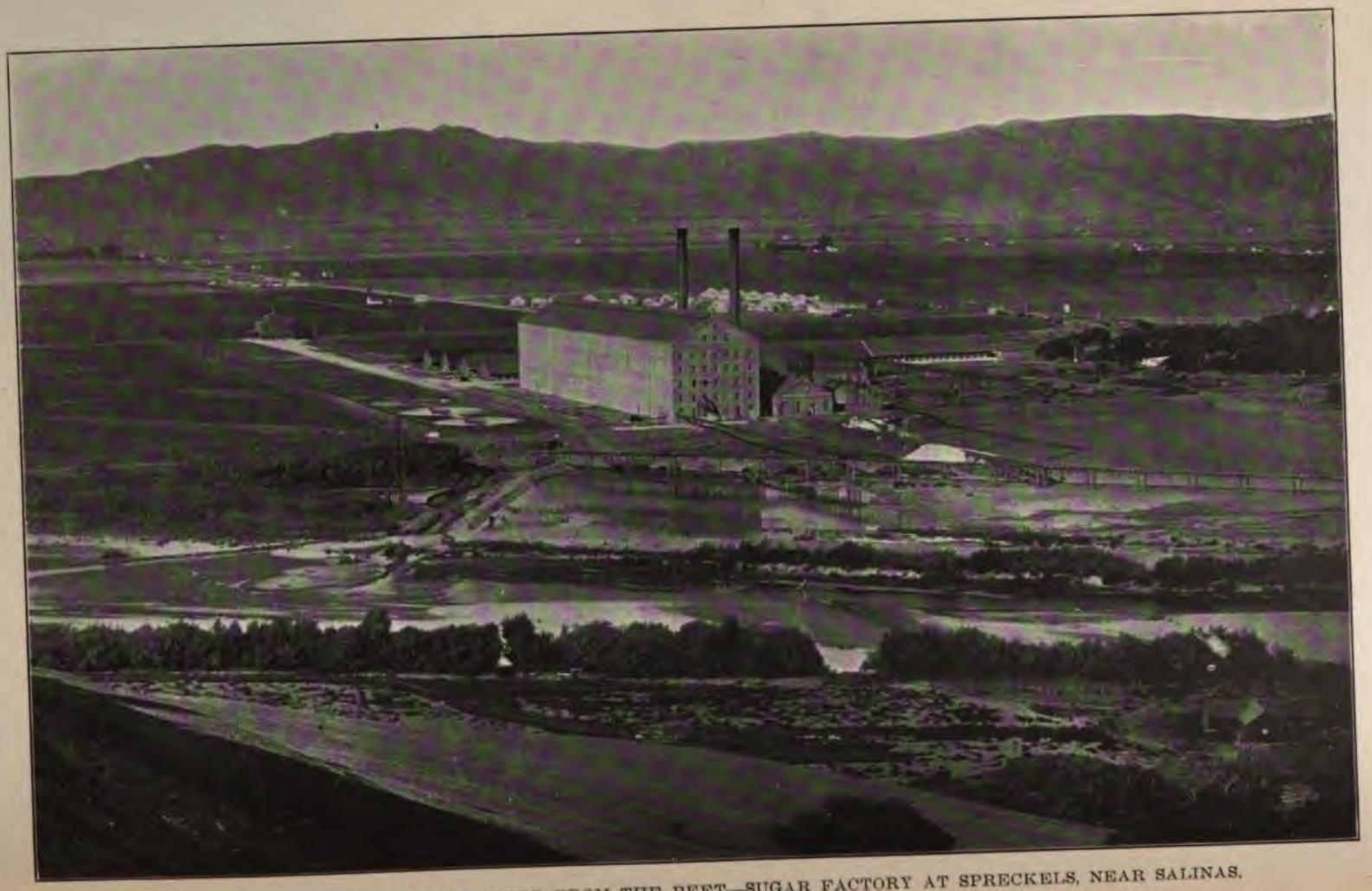
Overland Railway Across Plumas County.

Plumas and Lassen counties are small empires, the latter nearly five thousand square miles in area. Through these counties runs the Nevada-California-Oregon Railway northerly from Reno, Nevada, the junction point with the Southern Pacific's central overland line. Mining developments and the incoming of Eastern and European capital have drawn attention to these counties and much work is being done and more prospective. The line of the recently organized Western Pacific railway will cross Plumas county through the Beckwith Pass, known to the earliest pioneers. The route is across the county into Butte county down into the Sacramento valley. This road some day, the projectors claim, will be the western outlet of another transcontinental railway.

Throughout Modoc and Lassen counties are vast cattle ranges, besides mines, tracts of timber and mountain lakes that are the delight of the sportsman. In Modoc county are the famous lava beds, the scene years ago of fiercely fought Indian campaigns. An industry recently developed is the utilizing of certain varieties of pine timber for the manufacture of pulp from which paper is made.

What a Resident of Lassen Says.

A resident of Susanville, Lassen county, Mr. J. E. Pardee, writing recently of that section, gives the following statement concerning opportunities for settlers, and facts here given may be applied largely to the other mountain counties with similar characteristics:



WHERE SWEETNESS IS EXTRACTED FROM THE BEET—SUGAR FACTORY AT SPRECKELS, NEAR SALINAS.

"All garden vegetables usually grown in the temperate zone are thrifty and productive here; potatoes, cabbage, turnips, carrots, tomatoes, squash, etc. Potatoes sell on the average at one cent per pound, tomatoes at two cents.

Mountain Apples.

We raise no citrus fruits, but apples, pears, plums, prunes, peaches, apricots, nectarines and cherries are good crops, their quality being excelled by none grown anywhere. Apples are particularly adapted to our soil and climate, and Lassen county apples are in great demand on account of their superior quality. We have some large orchards which have been bearing for years. We ought to be setting more trees, and many of them, every year. Apples are packed in boxes containing about fifty pounds, and sell in the orchard at prices ranging from sixty cents to one dollar per box. In the last thirteen years there has not been an entire failure in the apple crop. The trees bear more heavily some years than others, but the rule is a good crop every year. Pears are even surer than apples, and the quality of Bartletts and other varieties grown here is superb. Plums are steady and reliable bearers, as are also prunes, and quality of the best. The other fruits mentioned are somewhat less reliable, though we hardly ever fail to have a fairly good crop of cherries, while peaches are fully as sure or surer here than they are in the peach-growing States along the Atlantic coast. Small fruits and berries are thrifty and abundant. We have fine strawberries every season, but only one crop per season.

Orchards In the High Sierra.

"There is a splendid opening here for the establishment of a nursery business. Orchards are bound to multiply in number and increase in size. Perhaps, no better use could be made of a large portion of our best lands than to put them in orchards, for apples and pears will give as handsome returns as almost any crop that can be grown, and at the same time the ground may be utilized for the growth of alfalfa without detriment, and, indeed, with benefit, to the orchard. Some persons who read this may not know what alfalfa is. It is of the clover family, and is sometimes called Chilian clover. It grows very rank and

makes the very finest feed for beef cattle and dairy cows. It will make from two to four crops per year under favorable conditions. Here two crops are sure, and three are often cut. After the last cutting it affords fine pasture for cattle, horses and hogs. It yields, with two cuttings, forty-six tons per acre. The second year after seeding, it comes to full maturity and thereafter with proper care, will continue to produce year after year. Alfalfa does not impoverish the soil. Its roots will penetrate to the depth of twenty feet or more, reaching for moisture. Hence, on all lands where moisture is near the surface after the plant is once started, becomes independent of irrigation.

Alfalfa In Mountain Valleys.

"Let us consider what an acre of alfalfa will do for its owner. On one hand, we have the cost of water for one acre, say two dollars. (One dollar has generally been the price.) Labor irrigating one acre, one dollar; cutting and putting up four tons of hay at $1.50 per ton (it is often contracted at $1.25), $6—making a cost of $9 per acre. On the other hand, we have four tons of hay worth $5 per ton—$20, leaving a net profit of $11 per acre, or ten per cent, return of $110. Is not that acre then worth $100 or more? And that same acre of land, and at the same time, will grow forty-eight apples, pears or other fruit trees which, when they come to bearing—which will be when they are four or five years old—will yield one hundred boxes of apples or more (it is liable to be five hundred) or their equivalent, which can be sold at the very least for $50; of which amount, at least half can be counted as clear gain.

"If any such there be in the East who have heretofore suffered from the extreme heat in the summer—that moist, 'muggy' heat that in some localities so oppresses one both day and night—let him come to this upper country of California, where we have a warm, dry summer, seldom oppressive, even in the middle of the day, and with night always cool enough to call for a good warm blanket; where occasionally a winter may sprinkle enough snow to make good sleighing, and where an ice crop is tolerably certain; but where even in winter the majority of the days are fair

and pleasant, and hardly ever a day passes that it is not warm enough to thaw during the middle hours of the day. If when you have seen us and our country, you do not like us, we will say 'pursue your journey and peace be with you;' but if you should conclude to cast your lot with us, we will give you a hearty welcome.

"But don't come with an idea that you can make a fortune without work. Here, as in most other places, intelligent industry is the only sure road to prosperity."

The Sportsmen's Paradise.

Through portions of Mono and Inyo runs the Carson & Colorado Railroad, a branch of the Southern Pacific system with its junction point at Reno, on the central overland line of the Southern Pacific. Both these counties are rich in minerals and in Mono county are the old-time mining camps of Bodie and Bridgeport, and throughout the country are rich deposits that are constantly attracting the attention of prospectors and developers. These counties are on the eastern slope of the Sierra Nevada. Up in the mountains at the base of Mt. Whitney, Mt. Williamson and other peaks is the vast region which some day will be known to the world of sportsmen, as a hunting and fishing paradise a hundred times the area of the Adirondacks.

Weber and Independence Lakes.

South of Plumas county and bounded on the south by the headwaters of the Yuba river is the county of Sierra, rich in timber and minerals. The lumbering industry has developed recently at the town of Loyalton, from which a branch railroad runs to the main line of the Central Pacific at Boca. In this county are Weber Lake and Independence Lake, two gems in the Sierra Nevada setting, and growing yearly as attractive summer resorts. In the western half of the county, where mining is the chief industry, the growth of that industry has been steady. The average annual gold production for the past six years has been about $450,000, and its entire production since 1850 reaches the enormous total of $200,000,000. Most notable has been the construction of the Bellevue tunnel, near Gibsonville. The purpose of the tunnel is to tap the Thistle shaft channel. At the Tabor mine, near by, a tunnel is being run to tap what is supposed to be the same

FIVE HUNDRED THOUSAND DOLLAR SHIPMENT OF COPPER-GOLD-SILVER BULLION,
FROM DE LA MAR BULLY HILL MINE, SHASTA COUNTY, CALIFORNIA.

channel. With the reopening of these mines the prosperity of northern Sierra will be greatly marked.

The recent discoveries (1902) at Tonopah, Nevada, a camp that promises to rival Virginia City, Dawson, Cripple Creek, and Johannesburg, as an alluring center for gold seekers, have brought increased prosperity to the valleys of Mono and Inyo, in making a nearby market with fast growing trade. In the Owens river valley in Inyo in the past few years have located many Quakers brought thither by an enterprising colony organization.

Millions in Cerro Gordo.

At Minnietta, Inyo County, are mines which produce steadily. Cerro Gordo's silver-lead output from its discovery until 1876 has been estimated at $13,000,000. Litigation closed this mine for years, but some work is now being done there. Darwin is another old-time important producer. Beveridge has paid many thousands of dollars in gold. Valuable quartz and placer mines are being worked in the mountains east of Independence. Along the Sierra foothills some limited placer mining has been done. Recent discoveries near Bishop are believed to be of much value. The White Mountains and Inyo range (in reality a continuous chain) abound in ledges, some of which have long been worked at a profit but many more are untouched. At Lead Canyon, southeast of Big Pine, mines have recently been opened and are proving valuable. At Ubehebe, Saline Valley, are immense deposits of copper yet to become important.

Borax and Salt Deposits.

In other mineral substances Inyo county is also rich. Great deposits of borax exist and are profitably worked in the southeastern part of the county, in Salt Wells valley and in Saline. In the latter region are also unlimited quantities of the purest salt known to commerce. Near Keeler, the Inyo Marble Company owns a veritable mountain of fine marbles of every hue; the finishings of the Mills building in San Francisco came from these quarries. The Inyo Development Company produces thousands of tons of soda annually by evaporating the waters of Owens lake. Near Cerro Gordo is an abundant supply of fine fire clay. A soft, attractive building stone is quarried

ELECTRIC POWER-HOUSE AT COLGATE, ON THE YUBA RIVER. THE POWER GENERATED HERE RUNS THE STREET RAILWAYS OF OAKLAND, 219 MILES AWAY, THE LONGEST DISTANCE POWER TRANSMISSION IN THE WORLD

near Bishop for local uses. Buhr stone, pronounced of fine quality, exists near Independence station. Northeast of Big Pine the foothills are whitened by a wide expanse of low grade phosphate deposits.

Fertile Owens Valley.

Owens valley, extending nearly all the length of the county's western edge, contains all its farming land and the great bulk of the county's population, and to this valley alone is reference made in speaking of Inyo's agricultural resources. Owens valley is approximately one hundred miles long; about fifteen miles wide at Bishop; is almost cut into by a spur of the Sierra near Fish Springs, south of which it expands to a width of six to ten miles. It contains about five hundred thousand acres of arable land of which one hundred and ninety thousand acres are now held under patent. Scarcely one-fifth of this is as yet materially improved. The Independence land officers estimate that about 25,000 acres which may be irrigated from existing streams or ditches, remain unclaimed. A much greater area yet vacant is reclaimable by artesian or storage enterprises.

The soil is everywhere fertile. Along the foothills and through much of the valley it is sandy, with loam along the low lands. Alkali is found in this better soil, but not usually in sufficient quantities to make the land useless.

Agricultural lands are obtainable at prices which, in comparison with those charged in many less fertile sections, are very low, ranging from $1.25 an acre for government locations to from $10 to $60 for improved tracts.

Farming Nearly a Mile Above the Sea.

The altitude ranges from three thousand six hundred and twenty feet at Keeler to three thousand nine hundred and seven at Independence station, to four thousand four hundred and fifty at Bishop and slightly more in Round Valley. Owing to this and the dry air, the climate is mild and healthful. The dry air makes one hundred degrees here far less severe than the much lower temperature in a moist climate. Owens river runs the valley's full length to the lake. Its flow is variable, but will probably average 40,000 inches, though several times as much in high water seasons. Bishop creek, the second largest stream, is a

river in itself at times. There are seventeen other streams of more or less importance, altogether flowing ordinarily 12,000 to 15,000 inches—an estimate but three-fourths as large as another at hand. There are probably twenty smaller streams, each carrying from fifty inches down. The waters of the river are diverted through seventeen main ditches and canals. Owens lake is eight miles or more in width, twenty in length, and is fed by Owens river, a few small streams, and some springs. Having no outlet, and being subject to rapid evaporation, it has in the course of ages become highly charged with minerals. An analysis made by a London chemist, shows its water to have a specific gravity of 1.76, and to be impregnated with carbonate, chloride, and sulphate of sodium, and sulphate and silicate of potassium. This water has rare cleansing properties, and medicinal virtues are attributed to it. Its mineral character has given rise to an important industry, the manufacture of soda. The liquid is pumped into twenty acres or more of shallow vats, where evaporation by the summer sun leaves the solid substances to be shoveled up by thousands of tons, then refined and marketed.

Abundance of Water.

BOXING ORANGES AT A FOOTHILL GROVE IN THE SIERRA MADRE, NEAR LOS ANGELES.

CHAPTER VIII.

CALIFORNIA SOUTH OF TEHACHAPI. Los Angeles and Surroundings—Orange Groves and Climate—In the Footsteps of the Padres—Resorts and Valleys and Mountains for Invalids—Where Water Works Wonders—Recent Development of Southern Counties—Orange, Olive and Lemon Groves—Increase of Orange Shipments East—The Ostrich Farm—Palm Springs, Indio, and the Country Below Sea Level—Marvelous Fertility of Land Once Desert—Beautiful Homes of Pasadena, Los Angeles, Redlands and Other Southern California Towns—Santa Barbara and Its Mission—Fruitful Valleys and Foothills—English Walnuts and Olives—The Outdoor School at Nordhoff—The New Potter Hotel at Santa Barbara—Beans of Ventura, a Wonderful Crop—National Soldiers' Home at Santa Monica—Profits of Small Farms—Big Hotels for Tourists—Santa Monica Wharf and the San Pedro Breakwater—Santa Catalina Island—San Diego and Coronado—Undeveloped Mining Resources—A Rendezvous for Warships.

—And the children shout, and an oriole sings
Where a poppy springs;
And the baby wonders and cannot guess
Why the world is clad in such loveliness.

—C. H. PHELPS.

SUNSHINE, pure air, fruits and flowers—these are the characteristics of all California, the things different from other parts of the country, and these characteristics differ in degree throughout the great State. In the region south of the Tehachapi mountains, for example, covering seven counties, there are more oranges raised than any other kind of fruit, but experiments each year demonstrate that about everything that can grow anywhere under the sun will thrive here. But climate and open air possibilities twelve months of the year form the big asset of this region. Drawn by climatic influences, Father Serra and his associates located the San Gabriel mission here on their march northerly over a century ago; then grew up near the mission the Los Angeles hacienda, which to-day has given way to one of the most prosperous and wide-awake of American cities.

The seven south counties have been widely advertised not only by systematic publication, but by the incoming tide of tourist sight-seers, and these factors have drawn here a progressive and a cultured people—drawn here chiefly by the same alluring characteristics that constitute the chief drawing charm of all California—sunshine, pure air, fruits and flowers.

The south California region is a wonderland, no question about that. Here in the past thirty years has been developed a region of tremendous fertility, of prosperous homes, one big city of about 150,000 people and the center of a surrounding country nearly as large as all of England. Here is a region that beckons as all California beckons to-day to the people who love open air, who are weary of cold and ice and snow and slush and sleet, tired of being tightly housed four or five months of the year, who seek health and strength and fortune in a country of climatic comfort.

This section includes the counties of Los Angeles, Orange, San Bernardino, Riverside, San Diego, Ventura and Santa Barbara. The area of this region is about equal to that of Pennsylvania. The population, in 1880, was 64,371, or 7½ per cent of the population of the State. In 1890 it was 201,352, or about 16⅔ per cent of the population of the State. To-day it is about 400,000, or nearly one-quarter of the whole population of the State.

A glance at the map will show the reader best the topographical peculiarities of this attractive region, show the sheltering mountains that crowd the valleys and enclose these south counties in their sheltering arms. The center of this section, and the second city of California in population, is Los Angeles. Built near the site chosen by the Franciscan fathers for a mission in 1771, during the past twenty years Los Angeles has grown from a population of 11,000 in 1880 to 102,479 by the census of 1900. The present population is estimated at nearly 150,000. There are three leading features that have contributed to such growth. These are climate, soil and location. Any one of these advantages would be sufficient to build up a large city, but taken together they insure the future of

the city as the metropolis of the southwestern portion of the United States.

The Magical Upspringing of Los Angeles.

The census of 1880 gave Los Angeles a population of 11,311. Business was dull, and there was no sign that the city was on the eve of a marvelous growth. Five years later, on November 9, 1885, the last spike was driven in the Atlantic and Pacific railway at the Cajon Pass, thus completing a new overland route. From that time the growth of the city was wonderfully rapid. The great real estate boom of 1885–7 is a matter of history, as is also the wonderful manner in which Los Angeles held up under the reaction that inevitably followed the collapse of the over-speculation at that period. Twelve years ago there was not a single paved street in the city. There are to-day over 200 miles of graded and graveled streets, over 20 miles of paved streets, 350 miles of cement and asphalt sidewalk, and 160 miles of sewers. Los Angeles has a complete sewer system, including an outfall sewer to the ocean.

Exports of Los Angeles.

The city possesses the great natural advantage of being located on the shortest route, by the easiest grades, between the Pacific and Atlantic oceans. The merchants of Los Angeles do a large business with a section of country extending from the eastern limits of Arizona to Fresno on the north. The principal articles of export are fruits, fresh and dried; potatoes and vegetables, beans, wine and brandy, wool, honey, canned goods, sugar, wheat, corn and barley. Wheat is sometimes shipped from one of the ports of Los Angeles county direct to Europe. As the commercial metropolis of the southwest, the city is becoming an important factor of wholesale trade, the merchants supplying the large territory extending from New Mexico on the southeast to Fresno on the north.

Shown by the Bank Clearings.

The banks of Los Angeles are noted throughout the country for their solid and prosperous condition, with deposits aggregating $35,000,000. The clearings of the Los Angeles city banks for the year 1901 amounted to over $162,378,058, an increase of nearly 32 per cent over 1900, and of more than 100 per cent over 1898. For 1902 the

bank clearings aggregated $245,516,112. The clearings for the first six months of 1902 amounted to $118,895,060, as compared with $78,504,220 for the first half of 1901. Two transcontinental lines enter Los Angeles and work has commenced on a third, by way of Southern Nevada and Utah, which may shorten the distance from Los Angeles to Chicago over 200 miles. This company has been organized by a syndicate of capitalists headed by Senator W. A. Clark of Montana, who have acquired the Terminal railway as the Pacific Coast end of the new transcontinental line, which will open up to Los Angeles a section in southern Utah and Nevada that is marvelously rich in coal, iron, silver and other minerals. The company is known as the San Pedro, Los Angeles and Salt Lake railway. The Pacific Coast Steamship Company runs vessels every few days from Los Angeles county ports to San Francisco and San Diego.

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Through Los Angeles pass daily the through overland trains of the Southern Pacific Sunset Route, and here is the western terminus of the vast Santa Fe system. Northerly from Los Angeles extend the two main lines of the Southern Pacific, one reaching San Francisco by the picturesque coast line by way of Santa Barbara, the other over the Tehachapi Pass through the fertile San Joaquin valley, one of the great grain and fruit producing regions of the world. Branches of these two great railway systems extend in all directions throughout the southern counties, affording frequent communication between hundreds of outlying towns that are fast growing into cities.

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The homes of Los Angeles form the city's most striking feature—homes of artistic architecture, surrounded by palms, orange trees, wide stretches of lawn, and fragrant flowers. Everywhere, everything tells of the outdoor life that is possible all the year round. At Christmas may be seen hedges of calla lilies, geranium bushes ten feet and more in height, and heliotrope covering the sides of a house, while the jasmine, tuberose and orange make the air heavy with their delicious perfume. Giant bananas wave their graceful leaves in the gentle breeze, and often

ripen their fruit; the fan and date palm grow to mammoth proportions, and roses of a thousand varieties run riot. A majority of the residences stand in spacious grounds, a lot of fifty by one hundred and fifty feet being the smallest occupied by a house of any pretension. Many have from one to five acres of ground, all in a high state of cultivation. Along the sides of the streets shade trees are the rule, the favorite varieties being the graceful pepper which grows to a great size, the eucalyptus and the grevilla. Everyone keeps out of doors.

Life in the Open Air.

The horses here have a busy time of it, and driving and horseback riding have long passed the luxury phase —they are necessities. The bicycle agents sell more wheels in proportion to the population than in any other city in the world. The miles of smooth streets, the inviting shade trees, the alluring wayside hotels, the hundreds of valley and mountain resorts through all this region, all invite excursions afoot, awheel, by carriage or automobile.

A Perfect Street Railway System.

The street railway system has recently been consolidated and perfected so that now there are somewhere near two hundred and fifty miles of track, nearly all fitted with the most modern electric equipment. In addition to the local electric lines, suburban electric roads extend from Los Angeles to Santa Monica, Redondo and Long Beach—all little cities by the sea—Pasadena, and Altadena, Alhambra, San Gabriel and other attractive points included in a radius of fifty miles of the city. This suburban system will soon comprise over six hundred miles of electric railway. Hotels are the best, and there are countless apartment houses and boarding houses, where living is good and reasonable. The principal hotels are the Van Nuys, Westminster, Angelus, Hollenbeck and Nadeau. As the figures of population indicate, the growth of recent years has been marvelous; the building in the business and residence districts both is going forward rapidly. During the first six months of 1902, the value of buildings erected in Los Angeles amounted to $3,390,000, and for the entire year $9,612,331.

In matters of climate and of soil products, what is

nd of lodel ures.

true of Los Angeles county is true of a large portion of the counties of this region. The following table shows the average maximum and minimum temperature in Los Angeles for the twenty years from 1880 to 1900, the figures being furnished by the United States Weather Bureau:

	Max.	Min.		Max.	Min.
January	76	34	July	93	52
February	79	36	August	95	53
March	82	38	September	97	49
April	87	42	October	90	44
May	90	44	November	86	39
June	92	48	December	80	36

The lowest temperature recorded during this entire period was 28 degrees, and during the entire period of twenty years, there were only six periods in which the temperature fell below the freezing point. Even on these occasions this temperature was maintained for only a limited time, generally in the early morning. In considering the summer temperature, it should be remembered that the climate of California is so free from moisture that, as stated, a temperature of 100 degrees here is far more comfortable than one of 80 degrees on the Atlantic coast. This is proved by the fact that farm laborers continue to work in the open fields during the hottest periods, while sunstroke is unknown.

In "California of the South," Dr. Walter Lindley writes as follows in regard to the influence of this climate upon invalids:

on of and Vorn.

"The cases which may hope for benefit by coming to California, are, first and foremost, the feeble and invalid from whatever cause; those who find the drain upon vitality in a harsh climate too great for them; who have need to spend a considerable portion of each day in the open air, yet who in their own climate are prevented from so doing by the inclemency of the weather; those who need clear skies and sunshine, to whom the refreshing sleep of a cool, bracing night is a necessity after the warmth of the summer day; those to whose enfeebled digestion or to whose capricious appetites a market stocked with fresh vegetables, fruits and berries, every month in

SQUABS BY THE MILLION. THE LARGEST PIGEON RANCH IN THE WORLD, NEAR LOS ANGELES.

the year, is of importance. For such and for all who are suffering from the nervous prostrations of overwork, there is probably no better climate to be found. It is a climate in which the drain upon vitality is, with any proper manner of living, less than the gain."

Where the Ostrich Flourishes.

On the slopes of the Sierra Madre range of mountains northeasterly from Los Angeles is Pasadena, a prosperous city of about 20,000 population and growing rapidly. Here hundreds of well-to-do people from the East and Europe have settled, building elaborate and artistic homes, determined to spend their years where life is worth living, because of the out-of-door possibilities of this region. Space does not permit any detailed description of Pasadena, nor of the many other places of similar charm scattered throughout this section. Between Los Angeles and Pasadena is the ostrich farm, a successful industry established by a young Englishman some years ago. A carload of ostriches were brought by him from South Africa, and here amid conditions of sand and sunshine similar to their home, these birds have thrived and made themselves and their owner happy. The ostrich farm is one of the sights of this section, and the owner has made a comfortable fortune from his enterprise.

In Pasadena are dozens of tourist hotels, which are full all winter and some of them all summer, with people from abroad who seek health and recreation. From Pasadena extends an electric railway to Altadena, where a marvelous cable road lifts the traveler up to Echo mountain, site of the Mt. Lowe observatory, which has gained fame in the astronomical world through the discoveries of Dr. Lewis Swift and other star-gazing scientists. From Echo mountain to Mt. Lowe extends an electric railway, which is one of the marvels of engineering. At Mt. Lowe is Alpine Tavern (altitude about 5,000 feet), an attractive resort visited yearly by thousands of tourists.

Sea Beaches Woo the Bather.

The lure of the sea draws south California residents to Santa Monica, Redondo, San Pedro, Long Beach, Newport and other points where the sandy beach and the warm waters of the Pacific combine to make sea-bathing a

delight. At Santa Monica the Southern Pacific has established a terminal, Port Los Angeles, by constructing a famous wharf nearly a mile long, extending into Santa Monica bay. At this wharf deep sea vessels are readily moored. At San Pedro government engineers have been employed for some years in building a breakwater, which is making a deep sea harbor for Los Angeles. An appropriation of over three millions of dollars has already been made for this work, and a good part of this amount expended. Construction of this breakwater means great things for the commercial future of Los Angeles and then the city will be in position to command its share of the growing commerce with Oriental ports.

Making a Deep Sea Harbor.

Across San Pedro channel is Santa Catalina, a picturesque, mountainous island, reached by daily steamer from San Pedro, noted for the fishing possibilities off its coves and on its shores; fishing for tuna and other game fish being a sport that has gained fame wherever fishermen congregate. The tuna attains a length of five or six feet and often weighs one hundred to one hundred and fifty pounds. Occasionally, a Jew fish is landed, weighing three or four hundred pounds. The Metropole Hotel at Avalon, Catalina Island, is open all the year round. On the way from Los Angeles to Santa Monica is the National Soldiers' Home, one of the finest homes which the government has erected for the care and comfort of its veteran soldiers.

Golden Crop of the Orange Tree.

As noted elsewhere the one chief industry of this south region is the orange growing industry, that has shown and is showing still, marvelous development. From small beginnings the business has grown until over twenty-four thousand carloads of oranges were shipped from these south counties in the season of 1900–1901, or nearly nine millions of boxes. Shipments of recent seasons were as follows:

	No. Cars.	Approx. No. Boxes.
1897-98	15,172	5,097,792
1898-99	10,351	3,477,936
1899-00	17,828	6,453,736
1900-01	24,096	8,722,752
1901-02	17,987	6,293,494
1902-03—(Estimated)	22,000	8,008,000

Spreading Orange Groves.

Most of the orange groves are located in Los Angeles, Riverside, Orange and San Bernardino counties, but in San Diego, Ventura and Santa Barbara, the industry is spreading rapidly. The development of artesian wells and the utilization of a large subterranean water supply as well as the systematic obtaining of water for irrigating from streams and springs are elements which have given orange and lemon growing in this region a tremendous impetus in recent years.

To describe the orange growing region in detail is impossible within the limits of this volume. Riverside, Redlands, Azusa, Duarte, Ontario, Monrovia, Covina and Pomona are all centers for orange shipments. Riverside, in Riverside county, is widely known as the "Orange Grove City." Its population to-day exceeds 10,000, and its valuation is something over $6,000,000. In the orange season of 1899–1900 the city of Riverside shipped 4,400 carloads of oranges and lemons, of the approximate value to the producers of $2,000,000, a sum exceeding the entire assessed valuation of all real and personal property in San Bernardino county at the inception of the Riverside colony.

Orderly Riverside.

The sentiment of the Riverside people is so strongly against saloons that for many years their presence has not been permitted, and the result is shown in the very orderly condition of the city, and the very few instances of lawbreaking and the small number of arrests. During a recent fair, lasting for eight days, when the streets were crowded each day by from 10,000 to 20,000 people, there was not one single case of drunkenness nor a single arrest.

At Riverside has just been built the new Glenwood Hotel, the only hotel in the world constructed after the style of the old missions. In Riverside is located the Sherman Indian Institute, established by an Act of Congress at a cost of $75,000. Of the profits of orange growing hundreds of residents of Riverside and surroundings can speak intelligently. While all agree as to the charm of the industry and its profits, yet personal experiences differ according to the location and the methods of the grower.

AT THE SANTA BARBARA MISSION.

Mineral Springs.

In eastern Riverside county is Palm Springs, a health resort of peculiar attractions. It is situated in a sheltered valley and surrounded by giant palms of natural growth. The dry air gives great relief to sufferers from lung and throat troubles. And indeed, scattered all through the mountains of these south counties, as well as through the mountain regions mentioned elsewhere in this volume, are resorts peculiarly fitted for bringing back health to humanity. The dry air, mineral springs, the atmosphere of pine forests and above all sunshine, are climatic assets of these resorts that give health to all who seek it in time.

To the north of Riverside county is San Bernardino, one of the largest counties in the United States, a small empire of wondrous possibilities, noted not only for the fruit growing possibilities of its southern part, but for the rich mines and mining prospects of its northern section. Through the county runs the main line of the Santa Fe railroad, a great factor in the rapid development of this mining store-house. In San Bernardino and Los Angeles counties are large government forest reserves, where forethought of prudent men is checking the destruction of the trees on mountain ranges which shelter the source of water supply for the fertile valleys below.

Famous Winter Resorts.

The most southern county is San Diego, noted for many things, but above all for its famous winter resort hotel at Coronado, for its wonderful harbor at San Diego, for its fruit growing and for its health-giving climate, which last element alone is gaining for its population thousands yearly.

Northerly from Los Angeles is Ventura, and beyond, Santa Barbara. These two counties are noted, as are all others of the south counties, for their climate and for their soil possibilities. Olives, English walnuts and oranges are the chief orchard products, while there are opportunities for returns from other lines of industry in their valleys and foothills.

A peculiar educational institution that means health for growing boys is located near Nordhoff in Ventura county, where the son of a Yale professor has established

an outdoor school where boys are prepared for college. Half of their day is devoted to horseback riding or exercising out of doors, and the output of this school is sure to form timber for football teams or 'varsity crews.

The Potter.

At Santa Barbara recently there has been constructed the new Potter Hotel, a modern establishment that attracts each winter a vast number of health-seeking tourists. The recent completion of the Southern Pacific coast line has given new life to Ventura, Santa Barbara and other coast towns. At Santa Barbara is one of the best preserved California missions, the building, garden and surroundings being kept in excellent condition and forming an attractive visiting point for tourists.

All through these south counties are mines, especially in Riverside and San Bernardino counties, mines of gold and silver chiefly. The recent development of the mines of the Mexican peninsula of Lower California is a good thing for these south counties, as Los Angeles and San Diego are the outfitting points for many expeditions, and there is a growing trade in mining machinery and supplies with the Lower California mines.

A recent writer on Southern California and its varied resources, thus summarizes its manifold charms:

A Land of Alluring Contrasts.

"It is a country of eternal snow—on mountain peaks 12,000 feet high; it is a country of eternal summer—in the smiling valleys radiant with perennial beauty. It is a land of roses, fragrant, beautiful; it is, too, a land of unbaked Boston beans. It is a land of ostriches, and, still more, a land of humming birds. Meadow larks unnumbered hail the morning from the upland grain fields; and at night in the fastnesses of the mountains yet may be heard the mountain lion. In the late winter and the early spring the valleys are a carpet of baby blue-eyes; and up on the higher mountain ridges, usually over the summits to the desert sides, majestic pines, too large for the saw-mill, lift their heads so high that their vesper songs, when the evening sea breeze comes, are lost. Southern California is a land of celery, for celery flourishes in the lowlands south of Los Angeles, and it is a land of salt to season that celery with, for out of the California desert broad acres

glisten in the sun at a lower level still—200 feet below the surging tide of the ocean. It is pre-eminently a land of magnificent sandy beaches, with gentle surf; it is not less pre-eminently a country of mountain resorts, with sparkling trout streams and pine needle carpets.

Where Every Prospect Pleases.

"It is a land of long ocean piers and high oil derricks. It is a land of many pumpkins to the acre and of many magnificent resort hotels. It possesses the most modern and active of cities and some quaint and sleepy Spanish pueblos. It has many mineral hot springs and hundreds of cool artesian wells, some of 400 inches flow. There are broad fields of waving grain and fleets of fishing boats. There is a vast network of irrigating canals and another network of many well-kept country highways. It is a land of sweetness, with many thousand acres of sugar beets and three large factories; and with every valley fringed with honey, for along the foothills and in the mouths of canyons, the hum of industry is apparent around many a hive. Large vineyards and grain fields neighbor amicably. Yes, it is a land of many things—of gold and silver, small fruits, vegetables, flowers, wool, wheat, hay, cattle, cranberries, walnuts, almonds, melons, wine, of tourists and of climate. It is above all a land of horticulture; of oranges, lemons, grape-fruit, apricots, peaches, pears, olives, prunes, quinces, guavas, bananas, loquats, nectarines, pomegranates, cherries and plums.

Sunshine and Balmy Air.

"The climate possesses an annual mean temperature of about 62 degrees, and there is nothing very mean about it, either; indeed, it is about right; in the dry air of the summer (but not at the coast) it wanders up to a hundred degrees, with a much lower sensible temperature; in winter it draws the line at frosts as a whole, though in a few localities the welcome is not so warm as to forbid Jack Frost from tarrying a few hours. The climate rejoices in 300 sunshiny days every year; it invites you to midsummer nights beneath clear stars, and open windows in the longer stretches of January darkness when the rose-scented air aids to pleasant dreams. It has a fraternal feeling for porches, swinging on the gate, long walks, bicycling, automobiling and coaching."

THE GOLDEN HARVEST IN A RIVERSIDE GROVE.

COUNTIES OF CALIFORNIA

Their Area, County Seats, and Population (according to revised U. S. Census, 1900, figures).

	Counties	Organized	Area (in Sq. Miles.)	Population	County Seat	Population
1	Alameda	1853	840	130,197	Oakland	66,960
2	Alpine	1863	575	509	Markleeville	149
3	Amador	1854	568	11,116	Jackson	1,645
4	Butte	1850	1,764	17,117	Oroville	2,000
5	Calaveras	1850	990	11,200	San Andreas	600
6	Colusa	1850	1,080	7,364	Colusa	1,441
7	Contra Costa	1850	750	18,046	Martinez	1,380
8	Del Norte	1856	1,546	2,408	Crescent City	699
9	El Dorado	1849	1,891	8,986	Placerville	1,748
10	Fresno	1856	5,940	37,862	Fresno	12,470
11	Glenn	1891	1,248	5,150	Willows	893
12	Humboldt	1854	3,507	27,104	Eureka	7,327
13	Inyo	1866	10,224	4,377	Independence	500
14	Kern	1865	8,159	16,480	Bakersfield	4,836
15	Kings	1893	1,257	9,871	Hanford	2,929
16	Lake	1861	1,332	6,017	Lakeport	726
17	Lassen	1864	4,750	4,511	Susanville	882
18	Los Angeles, including Catalina Island	1850	3,957½	170,298	Los Angeles	* 102,479
19	Madera	1893	2,140	6,364	Madera	1,600
20	Marin	1850	516	15,702	San Rafael	3,879
21	Mariposa	1850	1,580	4,720	Mariposa	366
22	Mendocino	1850	3,460	20,465	Ukiah	1,850
23	Merced	1865	1,750	9,215	Merced	1,969
24	Modoc	1854	4,087	5,076	Alturas	800
25	Mono	1866	2,796	2,167	Bridgeport	700
26	Monterey	1850	3,450	19,380	Salinas	3,304
27	Napa	1850	800	16,451	Napa	4,036
28	Nevada	1850	958	17,789	Nevada	3,250
29	Orange	1889	780	19,696	Santa Ana	4,933
30	Placer	1850	1,484	15,786	Auburn	2,050
31	Plumas	1854	2,361	4,657	Quincy	546
32	Riverside	1893	7,008	17,897	Riverside	7,973
33	Sacramento	1850	1,007	45,915	Sacramento	29,282
34	San Benito	1874	1,476	6,633	Hollister	1,315
35	San Bernardino	1854	20,055	27,929	San Bernardino	6,150
36	San Diego	1850	8,400	35,090	San Diego	17,700
37	San Francisco	1850	42	342,782†	San Francisco	342,782
38	San Joaquin	1850	1,370	35,452	Stockton	17,506
39	San Luis Obispo	1850	3,500	16,637	San Luis Obispo	3,021
40	San Mateo	1856	470	12,094	Redwood City	1,653
41	Santa Barbara	1850	2,450	18,934	Santa Barbaaa	6,587
42	Santa Clara	1850	1,355	60,216	San Jose	21,500
43	Santa Cruz	1850	425	21,512	Santa Cruz	5,659
44	Shasta	1850	4,050	17,318	Redding	2,946
45	Sierra	1854	910	4,017	Downieville	500
46	Siskiyou	1852	6,078	16,962	Yreka	1,263
47	Solano	1850	911	24,143	Fairfield	505
48	Sonoma	1850	1,540	38,480	Santa Rosa	6,673
49	Stanislaus	1856	1,486	9,550	Modesto	2,024
50	Sutter	1850	611	5,886	Yuba City	800
51	Tehama	1850	3,200	10,996	Red Bluff	2,750
52	Trinity	1850	3 276	4,383	Weaverville	968
53	Tulare	1854	4,935	18,375	Visalia	3,528
54	Tuolumne	1853	2,232	11,166	Sonora	1,922
55	Ventura	1872	1,850	14,367	Ventura	2,470
56	Yolo	1850	1,017	13,618	Woodland	2,886
57	Yuba	1850	625	8,620	Marysville	3,497

* Los Angeles School Census figures (July, 1902) show population of over 150,000.
† The population of San Francisco is reckoned, January, 1903, at fully 425,000.

VALUE OF PROPERTY IN EACH COUNTY OF CALIFORNIA

For the Years 1901 and 1902 and Rate of Taxation (State rate, .383 cents), according to report compiled by E P Colgan, Controller of State.

COUNTIES	Value of Real Estate 1902	Value of Improvements on Real Estate 1902	Value of Personal Property 1902	Grand Total Value of all Property 1901	Grand Total Value of All Property 1902	Total State and County Rate of Taxation, Each $100 1902
Alameda	$50,005,575	$28,684,825	$10,419,276	$89,771,005	$92,103,782	$1 25 - $1 65
Alpine	149,021	122,533	43,619	300,828	317,508	2 40
Amador	2,519,952	1,368,570	591,008	4,641,489	4,618,830	1 95
Butte	8,632,040	2,284,115	1,993,318	13,879,046	14,174,591	1 45 - 1 85
Calaveras	3,079,235	1,634,545	816,575	5,434,379	5,714,800	1 75
Colusa	8,873,688	1,060,705	1,253,621	11,812,546	11,850,008	1 03 - 1 35
Contra Costa	8,947,060	2,946,835	3,482,076	17,079,931	17,475,702	1 60 - 1 90
Del Norte	2,164,810	284,530	264,758	2,048,444	2,746,567	1 22 - 1 50
El Dorado	2,050,990	1,111,185	605,740	4,039,566	4,243,585	1 89 - 2 20
Fresno	19,040,479	5,702,997	3,741,710	30,770,729	32,049,386	1 35 - 1 65
Glenn	7,755,707	756,704	1,030,656	10,007,218	10,330,877	1 13 - 1 40
Humboldt	13,110,017	2,781,445	2,649,062	18,099,949	19,044,551	1 20 - 1 60
Inyo	888,734	510,823	511,579	1,885,336	2,000,229	2 00
Kern	13,103,218	2,793,583	3,904,011	21,129,890	22,558,092	1 11 - 1 40
Kings	4,889,929	1,134,179	1,173,618	7,565,903	7,871,294	1 09 - 1 40
Lake	1,973,954	707,577	438,239	3,178,460	3,153,614	1 75 - 2 25
Lassen	1,707,270	542,618	1,155,238	3,499,650	3,743,520	1 85
Los Angeles	65,847,865	30,229,010	*16,979,898	103,328,904	118,266,624	1 20 - 1 80
Madera	3,710,760	653,880	957,455	6,289,942	6,469,885	2 25
Marin	7,487,160	2,847,090	1,156,220	12,108,904	12,292,947	1 19 - 1 55
Mariposa	1,425,603	423,303	343,456	2,096,587	2,192,412	2 90
Mendocino	6,893,935	1,862,826	1,744,119	10,660,254	10,940,403	1 50 - 2 00
Merced	9,619,004	1,200,134	1,687,342	13,657,777	14,426,770	1 25 - 1 60
Modoc	1,380,315	562,140	1,217,978	3,003,805	3,216,423	1 50 - 1 85
Mono	479,024	333,351	212,016	1,137,276	1,071,641	2 50
Monterey	11,979,800	2,687,680	1,863,485	18,016,456	18,772,749	1 40
Napa	5,761,430	3,604,180	1,762,555	11,765,301	12,100,985	1 34 - 1 64
Nevada	2,713,900	2,636,965	1,046,800	7,076,340	7,171,631	2 05 - 2 45
Orange	6,789,515	2,451,190	1,377,990	11,245,544	11,882,916	1 20 - 1 55
Placer	4,152,870	2,016,715	853,135	9,097,657	9,467,385	1 60 - 1 95
Plumas	1,403,979	454,166	311,990	2,093,004	2,256,279	2 00
Riverside	6,213,261	3,435,125	1,133,760	12,248,709	13,498,385	1 50 - 2 00
Sacramento	16,020,500	9,261,570	4,642,140	34,346,017	35,018,484	†1 90 - 1 85
San Benito	4 124,150	947,065	914,500	6,018,740	6,275,678	1 37 - 1 70
San Bernardino	8,684,655	4,181,550	1,323,620	16,416,149	18,687,923	1 60 - 2 00
San Diego	11,118,441	4,083,623	2,391,823	19,961,959	20,341,614	1 75 - 2 25
San Francisco	191,804,510	96,631,790	89 859,788	413,388,420	420,355,541	1 6082
San Joaquin	19,600,504	6,542,634	3,769,322	32,023,372	33,307,767	1 20 - 1 60
San Luis Obispo	8,133,632	1,635,841	1,910,701	12,313,984	13,078,101	1 33 - 1 73
San Mateo	8,632,895	3,584,225	1,952,795	14,484,957	14,937,522	1 205 - 1 77
Santa Barbara	9,093,647	2,703,615	1,601,795	13,969,868	15,276,271	1 45 - 1 85
Santa Clara	31,894,505	13,869,400	4,243,365	51,920,963	51,990,152	1 04 - 1 44
Santa Cruz	6,514,540	2,930,295	1,308,675	11,222,967	11,540,781	1 50 - 1 95
Shasta	4,742,351	1,984,974	1,988,256	9,362,304	10 478,514	1 40 - 1 75
Sierra	1,070,220	344,850	188,080	1,529,604	1,736,862	2 31 - 2 75
Siskiyou	4,795,303	1,561,765	1,291,345	8,991,828	9,549,738	1 35 - 1 60
Solano	10,919,982	3,918,782	1,923,852	17,524,117	17,987,040	1 00 - 1 40
Sonoma	14,987,570	6,126,805	2,847,335	26,003,179	26,257,616	1 24 - 1 60
Stanislaus	7,592,585	1,428,255	1,669,130	12,037,410	12,403,838	1 28 - 1 60
Sutter	4,271,845	836,280	722,015	6,364,459	6,468,909	1 80
Tehama	6,389,235	1,715,550	1,929,990	10,910,679	11,240,967	1 20 - 1 50
Trinity	747,871	438,564	290,764	1,567,998	1,502,120	2 90
Tulare	9,500,020	2,433,491	1,970,482	15,794,307	16,476,032	1 15 - 1 50
Tuolumne	3,586,930	2,097,115	799,410	6,424 670	6,688,655	1 10 - 1 60
Ventura	5,451 481	1,538,445	1,492,140	8,658,243	9,398,496	1 50 - 1 90
Yolo	10,859,671	2,312,360	1,416,970	16,034,346	16,127,878	95 - 1 30
Yuba	2,687,640	1,292,165	993,675	5,464,434	5,599,895	1 65 - 2 00
Totals	$690,974,783	$284,226,533	$200,164,271	$1,241,705,803	$1,290,750,465	

NOTE—Where two rates of taxation are given, the lesser rate is that levied upon property situate within the limits of incorporated cities or towns, such property being exempt from road tax. † Includes special school tax of 36.3 cents.

METEOROLOGICAL DATA OF SAN FRANCISCO.

THE ANNUAL RAINFALL.

Recorded by the United States Weather Bureau.

YEAR.	July	August	September	October	November	December	January	February	March	April.	May	June	Total
1879–80	0.01	0.02	Tr.	0.78	4.03	4.46	2.23	1.87	2.08	10.06	1.12	.....	2 .66
1880–81	.....	.....	.....	0 05	0.33	12.33	8.69	4.65	0.90	2.00	0.22	0.69	29.86
1881–82	.....	.....	0.25	0.54	1.94	3.85	1.68	2.96	3.45	1.22	0.21	5.04	16.14
1882–83	.....	.....	0.26	2.66	4.18	2 01	1.92	1.04	3.01	1.51	3.52	0.01	20.12
1883–84	.....	.....	0.42	1.48	1.60	0.92	3.94	6.65	8.24	6.33	0.23	2.57	32.38
1884–85	Tr.	0.04	0.33	2.55	0.26	7.68	2.53	0.30	1.01	3.17	0.14	0.19	18.20
1885–86	0.06	Tr.	0.11	0.72	11.78	4.99	7.42	0.24	2.07	5.28	0.37	0.04	33.08
1886–87	0.23	Tr.	0.01	1.48	0.84	2.07	1.90	9.24	0.84	2.30	0.06	0.07	19.04
1887–88	Tr.	0.01	0.29	Tr.	0.99	3.34	6.81	0.94	3.60	0.11	0 38	0.27	16.74
1888–89	0.01	0.01	0.98	0.13	3.99	5.80	1.28	0.72	7.78	0.96	2.17	0.03	23.86
1889–90	0.01	Tr.	Tr.	7.28	2.90	13.81	9.61	5 16	4.73	1.18	1.07	0.10	45.85
1890–91	0.02	.....	0.31	.....	.....	3.25	0.98	7.26	1.96	2.44	1.25	0.11	17.58
1891–92	0.10	0.02	0 77	0.04	0.56	5.62	2.42	2.90	2.85	1.39	1.86	Tr.	18.53
1892–93	.....	.....	0.02	1.65	3.91	5.08	3.05	2.75	4.08	1.03	0.15	0.03	21.75
1893–94	0.02	.....	0 21	0.16	4.18	2.25	5.99	2 69	0.60	0.50	1.31	0.56	18.47
1894–95	Tr.	.....	1.05	1.73	0.88	9.01	6.99	2.31	1.89	1.24	0.60	.....	25.70
1895–96	0.01	.....	0.77	0.11	1.78	1.43	8.14	0.28	2.85	5.16	0.72	.....	21.75
1896–97	0.04	0.09	0.52	1.55	4.50	4.34	2.36	4.41	4.56	0.27	0.61	0.22	23.47
1897–98	Tr.	Tr.	0.10	1.70	1.05	1.22	1.12	2.13	0.24	0.19	1.44	0.19	9.38
1898–99	.....	Tr.	1.06	0.86	0.46	1.62	3.67	0.10	7.61	0.62	0.86	0.01	16 87
1899–1900	.....	Tr.	.....	3.92	3.79	2.65	4.11	0.64	1.91	1.08	0.32	0.05	18.47
1900–01	Tr.	Tr.	0.46	1.48	3.91	1.37	5.79	5.03	0 80	1.64	0.69	Tr.	23.17
1901–02	Tr.	Tr.	0.78	0.64	3.48	0.90	1.23	7.27	2.65	0.98	1.05	Tr.	19.75
1902–03	Tr.	Tr.	Tr.	1.70	1.98	2.32	3.73	1.76	6.23	0.56	Tr.	Tr.	18.28

MEAN TEMPERATURE OF SAN FRANCISCO.

Recorded by the United States Weather Bureau.

YEARS.	January	February	March	April	May	June	July	August	September	October	November	December	Annual
1880	48.0	48.8	49.4	53.3	57.7	57.2	58.8	59.1	68.9	59 8	54.2	53.2	54.9
1881	54.0	55.3	54.4	57.9	58.0	58.6	59.7	58 8	59.7	56.6	55.1	51.0	56.6
1882	49.4	48.8	53.4	53.0	57.0	59.5	50.5	58.6	59.8	58.8	53.2	52.8	55.2
1883	47.0	48.8	54.0	53.2	58.0	61.4	59.8	59.2	63.1	57.9	54.1	50.8	55.6
1884	50.6	50.8	54.5	56 0	59.4	60.2	61.4	60.0	59.6	58.2	57.4	52.8	56.7
1885	51.1	55.3	57.7	58.2	58.1	57.8	61.6	59.6	61.8	60.7	57.8	54.0	57.8
1886	51.2	56.8	43 6	55.4	59.1	59.4	60.3	60.6	62.4	58.6	56.8	53.6	57.3
1887	51.2	47.8	55.8	55.8	57.0	59.4	56.6	57.8	62.0	64.2	56.4	52.2	56.5
1888	52.6	53.9	53.4	57.8	56.9	62.4	61.4	60.8	62.8	61.6	57.0	53.2	57.3
1889	46.7	54.0	57.2	58.8	58.8	60.2	58.8	60.4	64.6	61.8	58.8	51.3	57.9
1890	50.4	49.1	53.8	54.8	59 8	59.2	59.8	61.4	60.4	62.4	59.0	49.8	56.3
1891	46.2	51.1	55.0	53.4	55.7	60.2	59.4	61.8	61.8	59.7	58.6	49.6	56.6
1892	51.7	52.4	54.2	53.1	58.0	56 8	58.1	59.4	60.2	59.6	56.9	51.1	56.0
1893	47.4	50.3	51.2	52.4	55.8	56.5	56 6	56.6	59.3	57.6	55.6	52.4	54.3
1894	47.7	48.4	50.6	55.2	55.4	55.9	56.4	59.2	63.4	59.6	59.4	49.7	55.1
1895	48.6	53.8	52 2	54.8	57.6	58.7	58.4	58.4	60.7	58.8	56.2	48.6	55.6
1896	52.2	55.3	54.3	51.6	56.3	57.2	59.4	59.5	59.6	58.8	53.4	52.8	55.9
1897	48.6	50.7	48.9	57.4	57.4	58.9	58.2	57.6	60.8	58.4	53.1	50.7	55.1
1898	46.7	52.6	51.2	54.4	52.6	59.0	56.2	57.0	59.0	61.2	55 4	49.7	54.6
1899	53.0	51.6	52.2	55.0	53.0	56.9	55 9	58 3	58.2	59.2	57.0	49.6	55.0
1900	50.7	53.6	55.2	54.0	57.0	57.6	58.2	59.7	63.3	58.9	56.3	50.2	56.2
1901	49 8	52.2	55.8	51.8	53 9	56.7	55.6	56 4	58.5	61.8	57.0	52.9	55.2
1902	46.7	52.9	51.6	54.4	55.5	56.9	59.5	60.6	61.9	59.3	54.8	50.6	55.4

METEOROLOGICAL DATA OF LOS ANGELES.

THE ANNUAL RAINFALL.

YEAR	January	February	March	April	May	June	July	August	September	October	November	December	Total
1880	1.33	1.56	1.45	5.06	.04	.00	Tr.	Tr.	.00	.14	.67	8.40	18.65
1881	1.43	.36	1.66	.46	.01	.00	.00	Tr.	Tr.	.82	.27	.52	5.53
1882	1.01	2.66	2.66	1.83	.63	Tr.	.00	.00	Tr.	.05	1.82	.08	10.74
1883	1.62	3.47	2.87	.15	2.02	.03	Tr.	.00	.00	1.42	.00	2.56	14.14
1884	3.15	13.37	12.36	3.58	.39	1.39	.02	.02	Tr.	.39	1.07	4.65	40.39
1885	1.05	.01	.01	2.01	.06	Tr.	Tr.	Tr.	.05	.30	5.55	1.65	10.69
1886	7.78	1.41	2.52	3.32	.01	.11	.27	.21	.11	.02	1.18	.26	17.20
1887	.20	9.25	.29	2.36	.20	.07	.07	Tr.	.15	.17	.80	2.68	16.24
1888	6.04	.80	3.17	.12	.05	.01	.04	.10	.03	.40	4.02	6.26	21.04
1889	.25	.92	6.48	.27	.65	.01	Tr.	.61	.01	6.96	1.35	15.80	33.31
1890	7.83	1.36	.66	.22	.03	.02	.00	.03	.06	.03	.13	2.32	12.49
1891	.25	8.56	.41	1.26	.31	.00	Tr.	.00	.06	.00	.00	1.99	12.84
1892	.88	3.19	3.39	.22	2.06	.06	.00	.01	.00	.33	4.40	4.18	18.72
1893	7.29	2.27	8.52	.19	.06	.03	.00	.00	Tr.	.75	.20	3.65	22.96
1894	.94	.49	.37	.13	.20	Tr.	Tr.	.01	.73	.02	.00	4.62	7.51
1895	5.84	.46	3.77	.46	.19	.01	Tr.	Tr.	Tr.	.24	.80	.78	12.55
1896	3.23	Tr.	2.97	.19	.30	Tr.	.02	.01	Tr.	1.30	1.66	2.12	11.80
1897	3.70	5.62	2.31	.02	.10	Tr.	Tr.	.00	.00	2.47	.01	.05	14.28
1898	1.26	.51	.98	.03	1.75	Tr.	.07	Tr.	.02	.09	Tr.	.12	4.83
1899	2.64	.04	1.81	.18	.04	.58	.00	.01	Tr.	1.59	.90	.90	8.69
1900	1.17	Tr.	.99	.54	1.81	Tr.	Tr.	Tr.	Tr.	.26	6.53	Tr.	11.30
1901	2.49	4.38	.45	.68	1.50	Tr.	Tr.	.09	.03	1.88	.46	.00	11.96
1902	1.62	3.35	2.98	.16	.03	Tr.	Tr.	Tr.	Tr.	.40	2.08	2.50	13.12

MEAN TEMPERATURE OF LOS ANGELES.

YEAR	January	February	March	April	May	June	July	August	September	October	November	December	Annual
1880	54	51	52	57	63	66	65	69	66	63	56	56	.....
1881	53	59	57	63	64	67	72	71	70	61	57	55	.....
1882	50	51	56	58	64	66	71	73	70	63	58	57	.....
1883	53	52	58	58	64	71	73	72	74	62	60	56	.....
1884	54	56	56	59	63	68	73	73	67	63	61	53	.....
1885	55	57	62	63	66	67	72	75	71	66	60	58	.....
1886	55	60	55	59	65	69	72	75	68	60	57	56	.....
1887	55	51	60	60	64	68	72	70	69	66	60	53	.....
1888	50	54	56	63	63	69	73	73	74	66	60	57	.....
1889	52	56	59	62	63	66	71	72	73	66	61	55	.....
1890	49	54	58	59	63	68	73	73	71	68	66	61	.....
1891	56	53	58	59	62	66	74	75	73	66	61	53	.....
1892	57	54	56	59	62	64	68	72	68	64	62	54	.....
1893	57	55	54	58	63	66	70	71	66	63	57	58	.....
1894	51	51	54	59	60	63	67	70	69	66	59	54	.....
1895	52	57	56	59	64	66	68	69	69	66	60	56	.....
1896	58	60	58	56	63	69	71	71	68	65	60	59	.....
1897	56	53	53	61	63	66	70	72	70	62	62	56	.....
1898	52	58	55	63	60	67	70	74	71	65	61	57	.....
1899	56	54	57	60	60	65	70	69	70	63	62	58	.....
1900	58	58	60	57	64	67	71	68	67	64	66	60	.....
1901	55	57	60	57	60	66	70	71	65	65	61	58	.....
1902	56	54	55	58	61	66	68	69	69	63	58	56	.....

MINERAL PRODUCTS BY COUNTIES

The total valuation of the mineral products of California for the year 1901, amounted to $34,355,981, appportioned among the various counties as follows:

Alameda	$786,366	Plumas	$403,832
Alpine	27,747	Riverside	316,608
Amador	1,888,191	Sacramento	302,882
Butte	879,767	San Benito	255,219
Calaveras	2,355,372	San Bernardino	1,844,239
Colusa	115,107	San Diego	514,522
Contra Costa	101,900	San Francisco	156,947
Del Norte	10,612	San Joaquin	80,456
El Dorado	347,263	San Luis Obispo	116,083
Fresno	480,696	San Mateo	15,725
Humboldt	108,425	Santa Barbara	300,148
Inyo	668,618	Santa Clara	421,150
Kern	2,423,918	Santa Cruz	195,779
Kings	5,000	Shasta	6,737,571
Lake	331,684	Sierra	576,182
Lassen	6,100	Siskiyou	1,067,451
Los Angeles	1,642,591	Solano	12,600
Madera	400,825	Sonoma	173,147
Marin	128,227	Stanislaus	29,169
Mariposa	542,975	Tehama	6,000
Mendocino	10,720	Trinity	752,280
Merced	12,453	Tulare	69,526
Mono	522,911	Tuolumne	1,710,171
Monterey	50,169	Ventura	350,570
Napa	516,388	Yolo	2,300
Nevada	2,145,840	Yuba	189,754
Orange	187,341	Unapportioned	33,280
Placer	1,025,184		

AUTHORITIES

For facts furnished and assistance rendered in compiling this volume, credit is due the following authorities, in addition to those already noted elsewhere: The Officers and Members of the California Promotion Committee: Harry Ellington Brook, Los Angeles; Colvin B. Brown, Secretary Chamber of Commerce, Stockton; W. A. Beard, Oroville; Professor Elmer E. Brown, University of California, Berkeley; J. F. Coope, Santa Cruz; B. L. Cadwalader, Secretary Police Commissioners, San Francisco; Benj. W. Day, Chief Clerk United States Mint, San Francisco; T. C Friedlander, Secretary Merchants' Exchange, San Francisco; J. A. Filcher, Secretary California State Board of Trade, San Francisco; Dr. R. M. Green, Oroville; Mrs. Will S. Green, Colusa; H. K. Gregory, A. G. P. A., A. T. & S. F. Ry., San Francisco; Geo. W. Heintz, G. P. A. North Shore Railroad, San Francisco; Victor Henderson, University of California, Berkeley, T. C. Hocking, President Stanislaus County Board of Trade, Modesto; Inyo Register, Bishop; J. J. Keegan, Secretary State Board of Horticulture, Sacramento; J. E. Locke, California Northwestern Railway, San Francisco; J. W. McCarthy, Secretary Fire Commissioners, San Francisco; Professor Elwood Mead, University of California, Berkeley; Professor Alexander McAdie, in Charge United States Weather Bureau, San Francisco; Out West Magazine, Los Angeles; G. A. Parkyns, A. G. F. & P. A. Southern Pacific, Los Angeles; D. E. Perkins, Secretary Board of Trade, Visalia; Pacific Oil Reporter, San Francisco; R. X. Ryan, G. P. A. California Northwestern Railway, San Francisco; Capt. A. F. Rodgers, United States Coast and Geodetic Survey, San Francisco; James Sutton, Register University of California, Berkeley; San Francisco Chronicle; Sausalito News; Sunset Magazine, San Francisco; Charles Howard Shinn; Paul Shoup, San Jose; Arthur A. Taylor, Santa Cruz; William Thomas, San Francisco; Hon. Robert A. Thompson, Santa Rosa; Cress Unger, Chief Clerk, Collector of Customs, San Francisco; Earle Ashley Walcott, San Francisco Examiner; President Benj. Ide Wheeler, University of California, Berkeley; Frank Wiggins, Secretary Chamber of Commerce, Los Angeles; A. J. Wells, San Francisco; F. E. Wright, Secretary Sacramento Valley Development Association, Colusa; Harry L. Wells, San Jose; Passenger Departments Southern Pacific and Atchison, Topeka & Santa Fe Railroads.

BOOKS ABOUT CALIFORNIA

Among many books written concerning California, the following may be listed as of special interest to those desiring to learn of the State's resources and characteristics, both material and romantic:

"Ramona," by Helen Hunt Jackson; "Under the Redwoods," "A Ward of the Golden Gate," "A Sappho of Green Springs," by Bret Harte; "The Californians," "Los Cerritos" and "Before the Gringo Came," by Gertrude Atherton; "The Remittance Man," by Beatrice Harraden; "John Charity" and "Quicksands of Pactolus," by Horace Annesley Vachell; "Blix," "MacTeague" and "The Octopus," by Frank Norris; "In the Footsteps of the Padres," by Charles Warren Stoddard; "The Picaroons," by Gelett Burgess and Will Irwin; "Stories of the Foothills," by Margaret Collier Graham; "Southern California," by Theodore S. Van Dyke; "Stanford Stories," by Charles K. Field and Will Irwin; "For the Blue and Gold," by Joy Lichtenstein; "California and the Californians" and "Knight and Barbara," by David Starr Jordan; "Autobiography of a Grizzly," by Ernest Seton-Thompson; "The Black Curtain," by Flora Haines Loughead; "A Summer in a Canyon," by Kate Douglas Wiggin; "History of California," by Theodore Hittell; "History of the Pacific Coast States," by H. H. Bancroft; "She of the West," by Bailey Millard; "The Little Lady of Lagunitis," by Richard Henry Savage; "Bird Notes Afield" and "San Francisco and Thereabout," by Charles Keeler; "The Johnstown Stage," by Robert Howe Fletcher; "On the Trail of a Spanish Pioneer," by Dr. Elliott Coues.

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